THE TECHNIQUE OF MUGHAL PAINTING

BY

MOTI CHANDRA, M.A., Ph.D.

Curator, Prince of Wales Museum, Bombay.

PUBLISHER
THE U. P. HISTORICAL SOCIETY.
PROVINCIAL MUSEUM
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Dedicated to the memory of
Ustad Ramprasad of Banaras (1874—1943 A. D.)
as a mark of gratefulness for the information
recorded in these pages,

State Museum,
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PREFACE.

This book has been written solely with the purpose of reviving and acquainting those who do not know the Techinique of Mughal Painting which is lost, and if the lovers of Indian art were to benefit even a little from the work, the author would consider his efforts amply rewarded.

—**Author**

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FOREWORD.

Dr. Moti Chandra's thesis on the *Technique of Mughal Painting* represents the fruit of his devoted work in tapping with much critical acumen technical details regarding the theory and practice of painting as practised during Mughal times and handed down traditionally in the memory of Ustad Ramprasad of Banaras, a surviving representative of the school of painting known as the Mughal School. As the faithful preserver of a tradition Ustad Ramprasad formed a link in the chain of master-painters who once had to their credit one of the finest schools of painting that the world has seen. Ustad Ramprasad was of humble position in life, a typical Indian artist without caring for power or wealth, but bearing single-minded devotion to the Muse of painting like the good old masters. Fortunately for him and for our art he was *discovered* by Rai Krishnadasa, founder of the Bharat Kala Bhawan, Banaras, and pioneer in focussing public attention on the art heritage of this country for the last forty years of his life. Rai Krishanadasa employed the talents of Ramprasad for the Bharat Kala Bhavan and kept him busy in painting pictures and making copies of old masters for many long years of his life until his death in 1943. He was a very patient and careful worker and capable of remarkably fine work, although far removed from the period when the school which he represented was in full glory. I saw him leaning for long hours at his paintings and he typified to us what the *Mussavirs* at the Mughal *Karkhanas* must have looked like when they were at work. Fortunately Ustad Ramprasad has left behind him his son Sarda Prasad, who as a painter is no less talented than his father. But perhaps no one else was more competent to impart in such a faithful manner the useful stock of painting tradition as Ramprasad himself did.

The subject of Indian art terminology possesses immense possiblities. To study and understand Indian art in its different branches of sculpture, architecture, paintings, textiles, wood carving, goldsmith's work etc., through those terms and technical phrases which the artists evolved after long usage is a distinct aid to appreciate how it was embedded in the true genius of the people. Dr. Anand Coomaraswamy opened the way for this kind of approach as in many other branches of Indian art studies.

The available evidence is extensive and scattered through a vast body of literature. From the point of view of compiling that evidence the sources are of a triple nature, viz., (1) specialised texts relating to Śilpa-śāstra and painting, etc. e.g., *Vishṇudharmottara* and the *Abhilashitārtha-chintāmaṇi* etc., (2) other texts in Sanskrit, Pali, Persian and various Indian languages which only incidentally in the course of their literary descriptions make use of technical words or art terms, e.g. the important word, *śālabhañjikā* used by Aśavaghosha,* and (3) a living tradition as preserved in the memory of the artists, sculptors, painters, masons and a host of other workers engaged in various arts and crafts who are linked to past traditions handed down from master to pupil and who are spread all over India. Ustad Ramprasad carried in his person the vast repository of the valuable material under the third category.

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* Some examples of painting terms from old literature are ललित कला (fine art), चित्रशाला (*Mālavikāgminitra*. Act 1) चित्रवत्सद्म (*Raghu*, 14.25) अभिलिखितवीथिका (*Uttararāma*, Act 1) चित्रदर्शन (also called आलेख्यविनोद a pastime for art-lovers), भित्तिचित्र (fresco painting). लेप्यचित्र (plaster painting), सुधाकर्म्म (finishing off the wall with *chunam* or stucco, *Vinaya-piṭaka*, III. 36), चित्राचार्य (master-painter, *Malāvikā*, Act. 1), चित्रविद्योपाध्याय (*Tilakamañjarī*, P. 177) चारुत्वतत्व (element of beauty, *Tilaka*.), तूलिका (brush, *Kumār*, 1. 16), वर्तिका (colour pencil), लेखनी (same as तूलिका) कालांजनवर्तिका (black pencil for drawing out-line, *Kādambarī*, P. 267), प्रतिकृति 'portrait), भावगम्यसादृश्य (mental impression of likeness, *Megh*, II. 22), चित्रपट (cloth painting), चित्रफलक (painting board, *Tilak*, P. 163), कुंडलितपट (painted roll, *Udayasundarī kathā*, P. 51), रेखामयीमूर्ति (outline picture), सरेखवपु (fine line sketch), परभाग (background, *Yaśastilakachampū*, II. 247), आलेख्यभित्तिसुगतबिम्ब (Buddha's picture in a wall painting, *Saddharmapuṇḍarīka*, II. 94). चित्रपुत्रिका (Harṣacharita, P. 165), लेख्यपुत्रिका (painted female figure), etc.

The architectural tradition of actual building has been handed down to our own times in Gujrat and Orissa and the master builders there are known to be doing their work in accordance with the old Śilpaśāstra texts in their possession. I was privileged to come into contact with a couple of such persons and could see what amount of technical knowledge on old Indian lines was still available with these *Sūtradhāras* and *Silāṭs*. In Rajasthan and in the U.P. the building tradition from the Mughal period is very strong and old workmen are still available to throw light on the traditional technique of their work. Their language bristles with terminology and is very expressive. But all this represents only a small cross-section from the vast store of technical words that once existed. The names of the different *Jāli* patterns cut in stone at Sikandara were imparted to me by an old Muslim mistri, from which it flashed on me that the terms were derived from Sanskrit and Prakrit and thus they were valuable to throw light on the problem of the origin of this kind of work in India. For example. जालीछवांस (*Jāli shaṭ-pārśva*) for hexagonal pattern, जाली अठबांस (*asṭ-āpārśva*) for octogonal pattern, जाली उछ छवांस (*ḍamarū shaṭ pārśva*) for hexagonal pattern of *ḍamaru* shape, इलायचा for cardamom pattern, etc. The goldsmiths in particular have a fund of terms relating to various decorative patterns and motifs which were only recently being worked in the gold and silver ornaments turned out by them. Unfortuntely the shifting of emphasis to modern fashions is helping to wipe out the old forms and with that the stock of old technical terms also is disappearing. It is therefore high time that sincere efforts by individual workers, artists and sculptors, and by societies should be made to interrogate the craftsmen to compile from them with proper illustrations the rich store of information on Indian art preserved in their memory. This will not only restore our links with the past but also enrich the modern Indian languages to a considerable extent as competent mediums for art expression. It will be found during the course of enquiry, as Dr. Motichandra has found, that the whole process of producing an art object from its initial stage to the final form is comprehended in the description that may be available from the craftsman. It is a work for which detailed and faithful recording is necessary.

A perusal of the following pages shows in fact that although the words recorded from Ustad Ramprasad related to Mughal tradition, a good number of them are much more ancient, e.g. *chauphuliā* for a four-petalled flower which was used as a decorative motif from the Gupta period onwards. The antiquity of motifs is no doubt a salient fact of Indian art tradition. The lozenge and circle described as *nag-jawahar* is a common feature of medieval architectural decoration. The lozenge pattern known as *sakarpara* is also called *kankavve ki bel,* as a stone cutter in Lucknow told me. The palmate *(pañjaka)* is a very ancient decorative motif which goes back to the Mauryan period. The fish scale pattern known to the Mughal artists as *sehresa* is certainly as old as the Kushāṇa period. The guilloche known as *jonki* in Mughal terminology is also of extreme antiquity. Similar is the case with the flowerstick pattern known as *'phūl-chhari'* to the Mughal decorators and to their much earlier ancesors as *pushpa-yahsṭi.* In a book of Mughal pictures done at Jaipur in the 18th century we find that for a protrait the use of the Persian *shabih* and the Sanskrit word *chhabi* is found. One of the more persisting terms of painting is *likhnā,* which from the time of Kalidasa right to our own has been employed in the specific sense of 'painting a picture', and still enjoys universal use in all the dialects derived from Sanskrit. Dr. Moti Chandra's richly documented treatise will serve as an eye-opener to show how much useful work can be done in this sphere and also indicate the correct lines on which work of this nature ought to be pursued.

The work was made over by the author in 1945 to the U.P. Historical Society at my special request for including in its monograph series. It was atonce entrusted to the Sree Bharatee Press at Calcutta, but unforeseen difficulties delayed its publication for several years. I am now happy to see it in print and hope that it will lead to more intense interest in this subject.

23rd. July, 1949. *V. S. AGRAWALA*
New Delhi.

INTRODUCTION

I

The earliest text dealing with the technique and theory of Indian painting is the Citrasūtra in Part III of the *Viṣṇudharmottara Purāṇa* which was already current in the seventh century,[1] and therefore contemporary with the later phase of the art of Ajaṇṭā. The text touches all the topics pertaining to the technique and conventions employed in Indian art. Proportions of human figure, types of men, different varieties of hair and eyes, various poses of body, method of preparing the plastered wall for painting, conventions regarding the representations of gods, men, landscape, seasons, etc., are some of the features of Indian art which have been properly dealt with in the *Viṣṇudharmottara Purāṇa*. The fact that the technique and conventions given in this book are not fictitious or over elaborated as in some other *śilpaśāstras*, but borrowed from the living traditions of the age, is proved by the use of those very conventions not only in the pictorial art of ancient India but also continued at much later date in Mughal and Rājpūt paintings.

The *Samarāṅgaṇa-sūtradhāra*[2], attributed to Bhoja, the King of Dhār in the eleventh century, is a work of encyclopædic nature which contains chapters on painting. The text is, however, very corrupt.

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[1] *Vishṇudharmottara Purāṇa*. Published by the Veṅkaṭeśvara Press, Bombay, 1912. The translation of the *Citrasūtra* entitled *The Viṣṇu dharmottara Part III*, by Stella Kramrisch was published by the Caclutta University. Dr. Coomarswamy has also published a translation of chapter XLI of the *Viṣṇudharmottara* in the *Journal of the American Oriental Society*, Vol. 52, No. 1, pages 13-21

The present writer is at work on preparing a critical text of the *Citrasūtra.*

[2] *Samarāṅgaṇa-sūtradhāra*, Gaekwad's Oriental Series, Nos. XXV and XXXII, Baroda, 1924, 1925.

Abhilişitārthacintāmaṇi[3] or 'Wishing Stone of All Desirable Information' compiled by Someśvara or Somadeva III of the Cāḷukya dynasty of Mysore in about 1131 A.D. includes a section on painting (*ālekhya-karma*), which embodies some of the materials of the *Viṣṇudharmottara*. The later texts on the technique of painting, the *Śilparatna*[4] of Śrī Kumāra (I, 46), a sixteenth century work of Travancore origin, and the *Śiva Tattva Ratnākara*[5] of Bāsava Rāja (VI, 2) a late seventeenth, or early eighteenth century compilation of Kannaḍa origin, are dependent for their materials on the *Abhilişitārthacintāmaṇi*, which they have utilised with proper modifications and expansions. Besides these texts, references to paintings in general literature have added much to our knowledge of the technique and traditions of Indian art. In this direction the works of Dr. Coomarswamy[6] are indispensible to a student of the technique of Indian painting. The rich collections of references made by the learned Doctor from the Brahmanical, Bauddha and Jain literature have added much to our knowledge of the technical side of Indian painting. Throughout the course of our present studies we have made use of the technical Sanskrit and Pali words from Dr. Coomarswamy's books and articles and pointed out where necessary their connection with technical terms in the vocabulary of the Mughal painters. In this connection articles by Śivarāmamūrti[7] and Rāghvan[8] are also of great interest.

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[3] *Abhilişitārthacintāmaṇi*, University of Mysore Sanskrit Series, No. 69, 1926. A fairly good edition of the text under the title *Mānasollāsa* has been publihsed in the Gaekwad's Oriental Series (Vols. XXVIII & LXXXIV, 1925 & 1939) in two volumes. The information on painting appears in Vol. II. pp. 78-79. The section on painting (*ālekhykarma*) has been translated by Dr. Goomarswamy under the heading,' *The Technique and Theory of Indian Painting*', Technical Studies, Vol. III, No.2, October 1934, Harvard University.

[4] *Śilparatna*, Trivandrum Sanskrit Series,No. 75, Trivandrum 1922. Dr. Coomarswamy has translated it under the heading *Chitralakṣaṇa (Śilparatna*, Chap. 46) in the *Ashutosh Memorial Volume*, Patna 1926-28, pp. 49-61.

[5] *Śiva-Tattva Ratnākara*. Ed. B. R. Rao and P.S. Sastriar. Pub. B.M. Nath & Co., Madras, 1927.

[6] *One Hundred References to Indian Painting and Further References to Painting in India, Artibus Asiae*, IV, pp. 41f. and 126f. ; also *Transformation of Nature in Art*, Harvard University Press, 1924, Chap. III and Bibliography.

Thus we have a fairly good knowledge of the technique of painting in Ancient India. We wish the same could be said about the technique of Mughal painting. The reason for the scarcity of material for studying technical side of Mughal art is obvious. Firstly, no book on the technique of Indian painting was written during the Mughal period, and secondly any attempt in the past on the part of students and inquirers seeking the knowledge of Mughal technique always met with stern opposition from the painters following the Mughal traditions in whom the belief is inculcated from boyhood that such inquiries always led to the divulsion of their trade secrets, and therefore it was incumbent upon them to guard their traditional knowledge zealously. To add to these difficulties the number of painters working in the Mughal style is steadily diminishing every year. The sons and relations of these painters either take up to other professions, or even if they continue the profession of their forefathers donot care very much to remember their art traditions, and more so, the terminology which their ancestors employed in their profession. This apathy is due to the cheapening of materials. Why should they bother their heads with various formulas for preparing the colours when they easily get as many colour can cakes as they like priced at a few annas each ? Their productions are also limited to the slavish reproductions of old paintings which do not require the technique of portraiture, sketching and finishing.

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[7] Sivaramamurti, *A Passage on Painting in Potana's Bhāgvata, Journal of Oriental Research,* VI (1932), pp. 184-187; *Painting and Allied Arts as revealed in Bāṇa's works, etc.,* VII (1933), pp. 59-82; *Kālidāsa and Painting, ibid.* 160-185; *Śri Harṣa's Observations on Painting with Special Reference to the Naishadhīya-carita, etc.,* 331-350; *The Artist in Ancient India, ibid,* VIII, (1943), pp. 31-45.

[8] Raghvan, *Some Sanskrit Texts on Painting, Indian Historical Quarterly,* IX (1933), pp. 898-911.

The study of Mughal and Rājput technique from the available materials was first made by Dr. Coomarswamy[9], and for the first time he explained various stages in painting from start to finish, the description of paper, the use of gold-beater's skin (*charbā*) for tracing and the colours, etc. A more adequate, but in no way complete, description of the technique of Mughal painters is given by Percy Brown[10] who got his information from Mr. Ishwari Prasad, a renowned painter of Patna school. His description of the Mughal technique has been quoted by I. Stchoukine and others.

Being a student of Mughal art I had a great desire to study its technique. I expressed my desire to Rai Krishnadasa, the Founder-Curator of the Bhārat Kalā Bhavan, Benares, and he at once suggested to me the name of Ustād Ramprasad, a painter well adept in the traditions of Mughal painters whose great-grand-father had learnt the art of painting from a painter named Lāljī, who came to Benares with Mirzā Jawān Bakht in the latter part of the eighteenth century. Ram Prasad did not belong to that class of Indian artists who are dubbed as artisans. He was a philosopher, a man who knew what he was doing or saying. I with Rai Saheb sat for hours together to gather as much information from him as possible. At first it was quite easy, and practically all the terms in daily use were jotted down, but after that our Ustād had to be regularly cross-examined, and with great mental effort he used to give us one or two words daily. This process was continued for practically a year till we exhausted his information. Even then it would have been impossible for me to get everything had not Rai Saheb always stood up to my help.

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[9] Coomarswamy, *Indian Drawings*, Vol. II.
[10] Brown, *Indian Painting under the Mughals*, pp. 180-94.

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Once I came in the possession of all information I wanted I sorted out the terms under different headings dealing with the ground and careers, pigments, crayon and brush, sketching and finishing perspective and landscape, canons of proportion and stances and decoration. Also to be more scientific I checked his definitions of the terms whenever possible with the help of literary references, and I was wonderstruck to see as to what a great degree Ram Prasad had kept alive the ancient traditions. As I have already said the art traditions which the forefathers of Ram Prasad learnt belong to the later part of the eighteenth century, and hence certain technical terms used by him belong to that period, but most of them belong to the seventeenth century or even earlier. In India traditions do not die easily.

CHAPTER I

GROUND AND CAREERS

Paper was the most important material for painting in the Mughal period. Illustrated MSS and separate paintings were executed on paper, and though there are examples of paintings on cotton-cloth and also wall paintings, the bulk of the paintings are on paper which was either manufactured in this country or imported from outside.

The invention of paper in 105 A.D. by one Tsai-lun in China was of far reaching consequence as it foretold the dawn of the new age in which paper plays such an important rôle. But in India four centuries earlier, in 327 B.C., according to the observations of Nearchus the Cretan, the friend and follower of Alexander the Great, a kind of thin glazed sheets which were made by felting cotton-wool were used for the purpose of writing. We may place reliance in the authority of Nearchus, as unlike other historians of the time he seldom indulged in mythical stories. He was an honest reporter and took pains to verify the stories before he reported them. But in the absence of any direct proof it is difficult to say whether the writing material found in the Pañjāb was true paper.

Some time back it was regarded as an established fact that the Arabs in the eighth century A.D. used cotton-wool and raw cotton for making paper. This belief led J. H. Royle, the author of *The Fibrous Plants of India,* to say that the art of paper-making from cotton-wool was learned by the Arabs from the Hindus. Recent investigations in this field by German scientists who examined the Archduke Rainer's collection of ancient manuscripts in 1894 have proved that the Arab paper was manufactured from linen, and that the Arabs had no knowledge of making paper entirely from cotton-wool.[1] If this is correct then the theory of the Indian origin of paper-making in Arabia is negatived. Moreover it is still an undisputed fact that the Arabs learned the art of paper-making after the battle of Kangli in 751 A.D. in Western Turkestan from a Chinese workman. The first paper-making factory was opened at Samarqand, and another was started at Baghdād in 794 A.D. in the reign of Harūn al-Rashīd. Samarqand produced several kinds of paper by the tenth century, the most expensive being a kind of thick paper covered with gold-dust which was extensively used till 1500.[2]

The papyrus and parchment which hitherto had served the purpose of writing materials were substituted by paper. In the tenth and eleventh centuries of the Christian era the craft of paper-making had spread all over the Muslim world. Paper was introduced in Europe after the Moorish conquest of Spain and the Arab occupation of Sicily. It is also an undisputed point that some parts of India, specially Western India, obtained the knowledge of the art of paper-making through the Arabs. According to William Raitt, Zain-ul-Ābedīn, a ruler of Kashmīr. from A.D. 1420 to 1470, imported paper-makers from Samarqand, whose technique is still followed by the paper-makers of Kashmīr.

Dr. Royle[3] makes a distinction between the craft of paper-making as followed on the foothills of the Himālayas and as developed in the rest of India. Because the hillmen use Daphne plant as material for paper-making Dr. Royle thought that they got their art from China ; while the rest of India uses *san, ṭāṭ*, linen, grass, and therefore this method was indigenous without any trace of foreign influence. Whatever may be the case it is now universally accepted that the art of paper-making in India achieved a great deal of excellence.

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[1] *Indian Print and Paper,* March 1936, p. 25.

[2] Basil Gray, *Persian Painting,* p. 23. London 1930.

[3] *Indian Print and Paper,* March 1936, p. 25.

Al-Efendi, the author of *Manāqib-i-Hunarwārān*[4], says that Turkish paper from Samarqand was of very good quality. Most ordinary kind of paper was manufactured at Damascus. The following kinds of papers were also manufactured in different centres of the world.

1. *Daulatābādī.* Paper manufactured at Daulatābād formerly called Devagiri, in north-western part of the Niẓām's territory.
2. *Khaṭāi.* Paper manufactured at Khata, the Cathay of Marcopolo, situated in North China.
3. *'Ādil-Shāhī.* A kind of paper manufactured in the dominions of 'Ādil Shāh.
4. *Harīrī.* Silk paper.
5. *Sulṭānī.* Paper manufactured at Samarqand.
6. *Hindī.* Indian paper.
7. *Niẓām-Shāhi.* Paper manufactured at Nizāmābād.
8. *Gaunī.* Paper manufactured at Tabriz. This was slightly yellowish in colour.
9. *Nukhayyar.* Watered paper.

The paper which the Mughal artists chose for their work was either imported from Persia and was designated Īrānī and Isfahānī, or was produced in this country. Paper of fine texture produced in the factories at Siālkoṭ and Kashmīr was in great demand. The statement of Mr. Percy Brown that the paper of good size was not obtainable because in Mughal paintings the artists joined several pieces of paper before they obtained the desired size[5] does not seem to be corrct. Special kind of paper for painting must have been costly in that period, and therefore no part of it was allowed to be wasted. This explains why several pieces were joined to obtain the desired size. But this was not a frequent practice. As

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[4] Martin, *The Miniature Paintings of Persia, India and Turkey*, p. 105.

[5] Brown, *Indian Painting under the Mughals*, p. 185.

Mr. Percy Brown himself admits, the peices were joined at the sides or ends, that is to say, the main painting was done on a single piece of paper and strips were pasted for the decorative borders. This practice is still continued by the painters of the Mughal school though the cost of paper has become insignificant compared with the Mughal period. They still cling to the old ideal that the paper is a precious commodity and should not be wasted.

From the time of Jahāngīr onwards the paper industry of India developed considerably. Various raw materials such as bamboo *(bās)*, jute *(ṭāṭ)*, and flax *(san)* were used for making paper. Paper was also produced from the waste-silk cocoons, but due to its defect of cracking it was not used by the painters.

The centres of the paper-making industry in the Mughal and even in the later days were Dānāpur, Mathurā, Siālkoṭ, Kashmīr, Kālpī, Ahmadābād, Daulatābād, Junnār, etc. The best paper, however, came from Kālpī and was manufactured from the old nets of the fishermen and hence called *mahājāl*. This paper had white sheen because the material, that is flax obtained from fishing nets, was perfectly water-bleached.

Since the introduction of big paper mills in India, and also the importation of cheap foreign paper, the industry of paper-making by hand has been practically ruined. The nationalist movement with one of the avowed objects to revive the cottage industries has given a fresh impetus to the dying art of paper manufacture by hand. A training centre has been started at Wardhā and the old industry of paper-making has been revived at Kālpī. Those interested in hand made paper can get good stuff from there.

CLOTH

Cotton cloth seems to have been fairly widely used for the purpose of painting in Ancient India. Thus in the *Saṁyutta Nikāya*

(II, 101-102, and III, 152) use of the strips of cloth (*dussa-paṭa*) along with well polished panel (*suparimaṭṭha phalaka*) and wall (*bhitti*) is mentioned for the purpose of painting. In the *Viśuddhimagga* (535) of Buddhaghośa canvas (*paṭa*) is the ground or support of painting. In the *Mahāvaṁsa* (XXVII, 18) the representation of a palace drawn with cinnabar on cloth is mentioned. In the *Mañjuśrīmūlākalpa*[6] painting on cloth is mentioned. The cloth is to be woven by a pure virgin. An elaborate ritual is prescribed in this connection. The *Kāmasūtra*[7] mentons *ākhyāna-paṭa*, which seems to mean a scroll containing the representation of a story. The *Kāvya* literature is full with references to canvas painting. It is mentioned in the *Dūtvākya* of Bhāsa[8] when Duryodhana describes a canvas picture depicting Draupadī being dragged by the hair. In the *Pañcadaśī* Mādhavācārya while discussing the four modes of higher self incidentally compares them with the four conditions of a canvas painting. The canvas is washed (*dhauta*), burnished (*ghaṭṭita*), drawn upon (*lāñchita*) and coloured (*rañjita*).

The examples of painting on cloth mentioned in literature may be multiplied indefinitely. But it seems that with the advent of the Mughals and the consequent introduction of the art of miniature painting, painting on cloth went out of vogue, though in the beginning of the Mughal school of painting pictures of *Hamzah Nāmah* were painted on cloth. Also there are paintings on canvas belonging to the seventeenth century in various museums but they are rare.

The most interesting examples of canvas paintings of the seventeenth century, however, belong to Sir Akbar Hydari collection now in the Prince of Wales museum, Bombay. As regards dimensions these paintings are the biggest which have come down to us from the Mughal period ; *Chāndbībī with her Maidens* measuring 2′–9″×4′–1″, *The procession of Abdullah Qutb Shāh measuring* 11′–8½×2′–11″ and *Abdullah Qutb Shāh on Throne* measuring 2′–8″×3′–5½″. The cloth used for these paintings is coarse *khaddar* on which a priming of zinc-white was applied to cover the pores before the actual painting was done.

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[6] *Āryamañjuśrīmūlakalpa*, Trivendrum Sanskrit Series, Vol. I, p. 131.

[7] Vātsyāyana, *Kāmasūtra*, Benares edition, p. 269.

[8] Quoted by Coomaraswamy in *One Hundred References to Indian Painting*.

In the modern paintings on cloth embodying very ancient traditions may be mentioned the *paṭ* paintings of Bengal and Purī in Orissa. In older *paṭs* of Orissa we find that the cloth on which the painting was done was of even surface which was coated with a thin layer of plastic clay which was carefully pounded and usually mixed with cowdung and then beaten to thin paste. When dry the surface was rubbed till it became smooth, and it was then ready for painting. This procedure is still followed by the *paṭ* painters of Bengal and Orissa.[9]

The Vaiṣṇavism of Vallabhācārya has given rise to another form of *paṭ* painting within hundred years or even more. Śrināthdvārā in Udaipur State, Rajputānā, is the chief place of pilgrimage of the Vaiṣṇavas and also the centre of Vaiṣṇavite art. The portrait of god Kṛṣṇa on small pieces of cloth in olden times were in great demand by the devotees. Much bigger paintings on cloth were and are still turned out representing various episodes from the life of Kṛṣṇa and are generally used in the Vaiṣṇava temples as tapestry curtains known as *pichvaī*. The priming is not the cowdung mixed with clay as in Bengal *paṭs* but thin coating of *safedā* or zinc-white. Paintings conforming to *pichvaī* but dealing with the episodes from the lives of the Jain Tīrthaṅkaras were also produced in Gujarāt in the eighteenth and nineteenth centuries.

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[9] Ajit Ghose, *Old Bengal Paintings, Indian Art and Letters,* Issue XI, 1926, p. 43.

WALL PAINTING

It is no use giving the history of fresco painting in India, the highest achievement in which may be found in the Ajaṇṭā frescoes covering a period between the first century B.C. to seventh century A.D. During the Mughal period fresco paintings were used for palace decoration. It is known that a building known as Khwāja Gate at Fatahpūr was decorated with wall-paintings. The Englishman Hawkins speaks of Akbar praying in the morning at Agra Fort upon a jet-stone at the upper end of which the pictures of Our Lady and Christ were placed.[10] Jahāngīr had at Lahore a gallery containing pictures of the members of his family and the officials of his court,[11] and another at Kashmīr with portraits of his father and grandfather, and of the Shāh of Persia with whom he exchanged embassies ; other members of the Imperial family were also represented. In the upper storey of the building were portraits of the *Amīrs* and the officers of the household; on the walls of the outer hall were landscape paintings showing the various stages of the route from India into Kashmīr.[12] Jahāngīr also had pictures representing the incident in the life of Jesus and scenes from the lives of the Apostles painted in the interior of his palace. On the one side of *jharokhā,* from where Jahāngīr used to show himself to his people, there was on one side the picture of Christ holding the orb in His hand, and on the other a copy of the Virgin Mary attributed to Saint Luke. The tomb of Akbar at Sikandarā, a little way outside the cityof Āgrā, was also decorated with frescoes by the order of Jahāngīr. Later on, however, they were obliterated by the order of Aurangzīb. Manucci saw these frescoes.[13]

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[10] *The Hawkins Voyages,* (Hakluyt Society, 1878.) p. 436.

[11] Purchas, *Pilgrims,* Vol. III., p. 53 (Glasgow 1905). Narrative of William Finch.

[12] *Tuzuk-i-Jahāngīrī,* tr. by Rogers and Beveridge, Vol. II, pp. 161-162.

[13] Manucci, *Storiado Mogor,* translated by W. Irvine, (London 1907) Vol. I. p. 141.

The palaces of Bīrsingh Deo at Orchā and Datia were also profusely painted.

At Ajaṇṭā, our earliest source of information about Indian fresco paintings, the ground was prepared by a mixture of clay, cowdung and pulverised traprock applied to the walls and thoroughly pressed in. Rice-husk was also added to the above mixture. The thickness of this first layer varied from one eighth of an inch to three quarters of an inch. Over this a coating of *cūnam* was applied.[14] This method was also followed at Bāgh.[15]

In the eleventh or twelfth century frescoes in the temple of Bṛhadīśvara at Tanjore a mixture of lime and sand was used for preparing the ground.[16]

The method of preparing wall surface for frescoes in the Mughal period may be termed what the Italians call *fresco-buono*. The modern method of preparing surface for fresco painting at Jaipur is so similar to that followed by the Mughal artists that we give a summary of the method below.

The advantages of lime plaster as ground are many. The plaster is durable and is not affected by damp except when attacked by saltpetre. It is also held good for external decoration in Northern India where the climate is dry.

In the modern Jaipur method lime used for preparing the ground is at first perfectly slaked. It must remain under water for a week or more. After this, sand double in proportion to the unslaked lime is added. This mixture is thoroughly ground. This plaster can then be used on rough stone or brick walls. The plaster is applied in thin coating after wetting the wall. It is thoroughly pressed into the joints and crevices and beaten edgeways with thin strips of wood till it becomes slightly dry. Then it is again wetted and another thin coat applied. This process is repeated again and again till the plaster is at last a quarter of an inch thick. Then it is carefully levelled and allowed to dry.

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[14] Griffiths, *The Paintings in the Buddhist Cave Temples of Ajanta*, Vol I., P. 18.

[15] Asit Kumar Haldar, *The Paintings of the Bāgh Caves, Rūpam*, October 1921, pp. 13-15.

[16]. S. Paramasivan, *The Mural Paintings in the Bṛhadīśvara Temple at Tanjore—an investigation into the method, Technical Studies in the Field of Fine Art,* published for the Fogg Art Museum, Harvard University, April 1937, pp. 221-240.

The marble lime for the final coating on which the painting is done is carefully prepared. It should be perfectly slaked and for that it is kept under water for months, sometimes even a year for the best works. Curds (*dahī*) are mixed with the lime in proportion of half a seer of curds to half a maund of dry lime. The mixture is stirred well and allowed to stand overnight. Next day the water is strained and fresh water added. This process is repeated for a week when the lime is ready to be used.

Only such part of the surface is wetted which can be painted in a day. A mixture of some ground plaster and fresco lime is prepared to the consistency of the cream and applied to the surface in two or three coatings rubbed well with a flat stone. After this two or three coatings of fresco lime are applied rubbed over with a flat stone. When these coatings are a little dry the surface is polished with an agate burnisher to impart it a beautiful sheen.[17]

IVORY PAINTING

The process of painting on ivory (*hathidāta*) is not Indian and seems to have been introduced by the painters of European extraction who visited India in the late eighteenth century. The process of painting on the panels of ivory was learned by the Indian painters from them. It is because of this reason that no ivory-painting by an Indian painter antedates the nineteenth century. The so-called pictures of the Mughal emperors, queens and *rājās* sold in the markets of Delhi, Lucknow, etc., belong to much later period. The importance of ivory painting lies only in the fact that this was a favourite form of expression with the Indian artists for more than hundred years, and it became highly popular with the painters of the later Mughal school at Delhi, Lucknow, Patnā and Benares.

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[17] E. B. Havell, *Indian Sculpture and Painting*, pp. 278-281.

In selecting a tusk to obtain panels for painting, the following points should be carefully marked; (1) the tusk should be new, as the old tusks turn light yellow; (2) it should not be cracked; (3) the middle portion of the tusk should not be either too much transparent or too much translucent or hollow. The panels sawed from a normal tusk are transparent to a certain degree, but in a faulty tusk there appears a horizontal line passing lengthwise the transparency of which is either too much or too little. The panels sawn from such faulty tusk are not fit for ivory paintings as the parts of the panels become too much transparent or too much translucent, and this unevenness in the surface makes the application of colours difficult as the same colour changes its optic qualities on defective ground. After the proper selection of the tusk panels to the thickness varying from 1|20 to 1|16 of an inch are obtained. If they are to be stored for some time they should be wrapped in fourfold cloth and kept safely. If the panels are left in the open they are liable to warp. If it so happens, then to remove warping the panels are soaked in water and wrapped in wet cloth and then pressed with a heavy weight. But badly warped panels are useless for the purpose of painting.

Small panels of ivory are easily obtainable, but bigger panels are difficult to get as big tusks are also used for other purposes. To obtain bigger size two panels are joined by making grooves in one of the panels which holds the tenons fixed in the other. The joinery should be perfect. Such panel serves the purpose but should not be used for fine works as the joints are liable to separate after some time.

When the panels are obtained their surface is rough and they bear the marks of saw-teeth. The artist has to smoothen them before the painting is done. To obtain a smooth surface the roughness is filed with a sharp razor and then the panels are rubbed on a hard and even slab of stone ; when the surface becomes absolutely even the panel is left in the open to dry. If even after such treatment scratches or unevenness remain then the surface is polished with the cuttle-bone (*samudra-phena*). This gives a smooth finish to the surface.

On the panel prepared in this way the drawing is transferred from the tracing, if the painting is to be the copy of some original. The final drawing with *likṭī* is done. If, however, the painting is to be an original work, the drawing is made in *likṭī*. After this the required colours are applied in thin coatings so that the ground is visible. Now the picture in finished by stippling. The mistakes are corrected by erasing the required part with cuttle-bone and fresh colour applied and the required effect obtained by stippling. The zinc-white grounding is not used ; the natural colour of the ivory serves its purpose. A special process known as *ābdārī* or 'glossing' is also employed. To represent the glossiness of the oiled hair or the folds of shining silk graments a very weak solution of gum-arabic is applied on the required part after the painting is finished. In applying this solution the artist should be careful so that the solution is not spilled outside its area, otherwise it will render the parts on which it runs glossy. The solution should not be strong, otherwise, the parts on which it is applied will be rendered too glossy and quite out of tune with the general colour scheme of the painting ; the surface will also become sticky, and the colour is sure to flake after some time.

WAṢLĪ (Paste-Board)

Waṣlī or paste-boards made by pasting two, three, or more sheets of paper are used by the Mughal painters for mounting pic-

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tures. In the time of the Great Mughals the manufacture of paste-board was confined to a class of artisans distinct from the painters. They were known as *waṣlīgar*. Later on, however, the painter himself had to prepare *waṣlī* for his own requirements.

In preparing paste-board such paper is required which is not chemically bleached and is also unsized. For this purpose hand-made paper is best suited. Many sheets of paper are employed in the manufacture of paste-boards according to the different sizes of the paintings.

The paste should be prepared on the night previous to the making of *waṣlī*. It should be thoroughly sifted and thinned with a little water in the morning so that it is cleansed of all impurities. A sheet of paper is spread on a smooth wooden panel and the obverse smeared with an even coating of paste, then raising the paper a little paste is applied on the borders of its reverse side in order to make it stick to the panel. Again the paste is applied on the obverse of the second sheet which is pasted on the first. In this way several sheets of papers are pasted. No paste is applied over the final sheet of the *waṣlī* if it is to be coloured or some decorative motif is to be painted on it. The extra paste sticking to the nether sheets is squeezed out by pressing. Afterwards this panel is kept in such a place where it gets light breeze but no sunshine. If there are swellings in the board one should not be disappointed ; they vanish within twenty-four hours.

Appearance of bubbles in the *waṣlī* (*waṣlīmē ḍabkā paḍnā*).

If the paste is not applied evenly to the sheets of paper or if it is applied in the rainy season then the paste-boards remain at places dry and at others moist. Due to this swellings appear in the boards.

The painters of Mughal school never paint pictures directly on the *waṣlī*, but paste the paintings painted separately on paper. Also they never paste the pictures on the *waṣlī* while it is wet.

CHAPTER II

PIGMENTS AND BINDING MEDIA

Colours used by the Mughal painters may be divided into two classes—natural and artificial. The natural pigments comprised of certain elements, compound minerals and vegetable extracts ; and the artificial, all manufactured salts or the pigments owing their colours to vegetable or insect dye-stuff.

Carbon from many sources was universal black pigment in Mughal painting. Metallic elements such as gold, silver and tin were also used in the form of powders applied to the paintings mixed with binding medium. The major part in the range of colours of Mughal painters came from minerals or natural deposits of mineral salts. Some minerals were found in fine powder as coloured earths and ochres. There were also pigments found in stones which had to be pounded to separate the colours. The manufacture of colours entailing hard work has practically stopped in India except at Jaipur. Even a few remaining painters doing work in Mughal style use foreign colours. They, however, remember well the process of obtaining fine colours from minerals and salts.

No mineral colour is used in its pristine stage ; all the impurities are removed by levigation. The process is technically known as *raṅga dhonā*, 'washing the colour'. To separate the coloured earth from two undesirable elements, sand and humus, the earth is dissolved in water. Naturally the sand is deposited at the bottom and the peat and the mould etc., tend to float and are skimmed off. But before the coloured earth also sets at the bottom the water is quickly drained in another vessel. This process is repeated several times till the colour is cleaned of all impurities. After being dried in the sun it is ready to be used. Colours are also obtained from coloured stones in the same way. The stone is thoroughly washed at first *(dho banāke)*, then it is pounded so thoroughly in a mortar that no particle *(kardā)* remains ; the colour is then obtained by the process of levigation.

No vegetable colours, except indigo, were ever used by the Mughal painters, as these colours are fugitive by nature. No insect colour except carmine was ever used. It was in the age of decadence that the vegetable colours began to be used especially by the artists of Patnā school. Mr. Percy Brown's conjecture that the vegetable colours constituted an important part of a Mughal painter's palette does not seem to be warranted by fact.[1] He probably got his information from one of the *ustāds* of Patnā school.

There are two kinds of manufactured salts used by Mughal painters, (1) salts resulting from the direct combination of elements, as vermilion *(īgur)*, or the red sulphide of mercury, and (2) salts resulting from the action of acid on the metal. From the latter category only verdigris *(zangāl)* is used.

WHITE PIGMENTS

The only white used by the painters of Mughal school till recently was *safedā* (zinc-white) imported from Kāshgar in Chinese Turkestan. Jaipur zinc-white is also good. As white lead is cheaper material it is also sometimes used in painting, but this should never be done as white lead is prone to turn black after some time. Zinc-white is thoroughly ground and sifted through a piece of muslin. This powder is put in a porcelain cup and gradually dissolved by adding a thin solution of *dhau*-gum as per requirement. After this the powder is kneaded by the thumb, a little water being added now and then. When the proportion of water in the zinc-white is such that it takes to the consistency of thick milk then it should be poured in another cup in such a way that uncrushed particles remain deposited at the bottom of the first cup. From the second cup it is transferred to third and this process is repeated till the zinc-white is cleared of all impurities. Finally the water is drained and the dried powder is ready to be used.

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[1] Brown, *loc. cit.*, p. 190

In Jaipur, which is the chief centre for cheap paintings, generally zinc-white is not used, its place being taken by chalk *(urdiyā khaṛī)*[2] and soap-stone *(sang-i-ṣarāhat)* which imparts a cheap gloss to the painting. But the paintings in which these whites are used are prone to flake without exception.

The use of zinc-white by the modern Mughal painters raises an important question whether it was the same zinc-white or white lead which was used in 16th and 17th centuries, as zinc-white was invented only in the 18th century. It is a well-known fact that white lead was extensively used in mediæval European paintings, though it has two drawbacks, firstly it is poisonous, and therefore of potential danger to the workmen, and secondly as a water-colour pigment it may be blackened by sulphur gases in the air. It is remarkable, however, as noticed by Prof. D. V. Thompson (*The Materials of the Mediæval Painting,* p. 94, Lond. 1936) this darkening of colour is quite uncommon in mediæval manuscripts and in mediæval panel paintings the phenomena is quite unknown. From the mediæval painter's point of view it was a further fault of white lead that it was uncompatible with verdigris and orpiment in mixtures. We do not know from what time white lead came to be used in Indian painting. The tradition, however, in Mughal painter is very strong that Kāshgar *safedā* used by their ancestors was zinc-white. It is a question which could only finally be settled after a careful scientific analysis of the whites used by the Mughal painters.

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[2] *Viṣṇudharmottara,* III, 40, 2 enjoins the use of lime *(sudhā)* for white.

LAMP BLACK (*siyāhi*)

Lamp-black served as black pigment for the Indian painters who used it from very ancient times as evinced by the frescoes of Ajaṇṭā and later wall-paintings and miniatures. Black from the lamp-black soot is prepared in the following way : A lamp filled with the mustard oil is lighted and kept inside an earthen pitcher and covered with a bowl. The lamp-black sticks to the bowl; camphor is also burnt to obtain lamp-black in the same way. The soot is then rolled into balls mixed with gum-arabic (*babūl).* These balls are put inside the dough-balls (*bāṭī*) and cooked on fire. By this process the oily portion of the lamp-black is absorbed in the dough.

RED PIGMENTS

Red is a favourite colour with the nature. There are red stones and red clays in which there is always present oxide of iron. But all such stones and clays cannot be used as most of them are slightly tinged with colour, which disappears when the colour is being separated. Therefore only such clays are chosen where oxide of iron is present in sufficient quantity.

Red ochre (*gerū)* is a colour widely used in ancient paintings and its hue is light and warm. Venetian red stands for *gerū* in the range of European colours.

Hurmuzī (Hindi : *hiraūjī)* or Indian red is produced from an ochre obtained from the Island of Hurmuz in the Persian Gulf. Its shade is dark, cold, and purple.

Orange lead (*S. sindūra, H. sēndura)*[3] was widely used by the Mughal painters for yellowish red. The colour is prepared by roasting white lead in open air till it attains deep red colour. Jaipur still manufactures very good quality of minium which is greatly used by the Hindus for ceremonial purposes.

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[3] *Viṣṇudharmottara,* III, 40, 25 mentions *sindūra* as a colouring material.

Vermilion or crude cinnabar or sulphide of mercury. Sans., *hingula* ; Hindi—*īgur* ; Pers. *shangarf*.[4]

Vermilion when ground yields a bright red. The best quality of vermilion was imported from Europe.[5] Formerly it was largely used by the Indian doctors for obtaining mercury for medicinal purposes and in much lesser quantity by the painters. The colour obtained by rubbing vermilion with the lime-juice.

Carmine : Hindi—*kirimdānā*.

The origin of the word *kirimdānā,* a compound made of the words *kirim* and *dānā,* is interesting. The word *kirim* is either the corrupt form of *kṛmi* in Sanskrit or *kermes* in Arabic meaning a red insect dye-stuff. The Hindi word *dānā* is derived from the Sanskrit *dhānya,* 'grain'. The compound therefore in ordinary sense would mean 'grains of insects'. Whether this dye-stuff was obtained from Arabia or whether it was an indigenous product obtained from insects growing on cacti we are unable to say.

Some very interesting information about *kṛmirāga* or carmine is obtained from Jain literature. Commenting on the *gāthā* 567 of the *Bhagawatī Ārādhanā,* a book of great sanctity to Digambara Jain community, Āśādhara observes that in Sanskrit commentary and glosses *kṛmirāga* was an insect product and was used for dying valuable shawls *(kambala).* The Prākrit commentary, however, gives the following story about the origin of the colour. In the country of the Carmaranga Mlecchas it was a custom to draw out human blood with leeches and collect it in vessels. After a few days

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[4] *Viṣṇudharmottara,* III, 40, 26, mentions *hingulaka* as one of the colouring materials. That sometimes outline was drawn in vermilion is referred to in the *Mahāvaṁsa* (xxvii, 18), *hingulinā tadālekhyam lekhayitvā paṭe.*

[5] *The Emassy of Sir Thomas Roe,* (Ed. W. Foster), p. 485. Hakluyt Society, London, 1899.

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weevils were produced which yielded *kṛmirāga* used for dying shawls (Hariṣeṇa, *Bṛhatkathākośa*, ed. by A. N. Upadhye, Intro. p. 88, Bombay, 1943). There is an interesting story of a Pārasīka or Persian merchant in the *Bṛhatkathākośa* (80, 2; 102 (1) in which he buys Cumkārikā, feeds her for six months, draws her blood with leeches and produces *kṛmirāga* insects thereby.

From the foregoing descriptions of the *kṛmirāga* it is evident that the production of the colour was a closely guarded secret and the cock and bull stories about its origin were designedly spread to prevent further inquiries. Another interesting point which emerges out from the stories is that the *kṛmirāga* was not an Indian product and that Carmaraṅga Mlecchas and the Persians had its monopoly of production.

It is interesting to note that the use of lac-dye for red has been referred to in the ancient Buddhist literature but owing to the fugitive nature of lac-dye it was and is never used by the Mughal painters, while the color obtained from the kermes which thrive on cacti was their favourite colour, though the shade of both is the same. Was *lākh* or lac-dye of the ancients obtained from the insects thriving on the *palāśa* tree (*Butea frondrosa*) or cacti (*thūhar*)? This belief is further strengthened by a reference in the *Viṣṇudharmottara*, III, 40, 23. In this verse the author describes two shades of red, lac-dye mixed with white gives blood-red colour, while lac-dye mixed with *lodhra* (lode) gives the shade of red lotus. Now the true Indian carmine whose shade is similar to that of the red lotus is also obtained by boiling *kirimdānā* along with the lode. Whether it is a passing similarity or *kirimdānā* of the Mughal painters, and the *lākṣā* as mentioned in the ancient literature are the same I am unable to verify. However it is an interesting point which deserves further research.

At a later period *kirimdānā* was replaced by another kind of insect-dye, i.e., the cochineal, which was introduced in Europe at the beginning of the sixteenth century. India in the seventeenth century imported cochineal from Persia, though it seems that it was not very popular here. Sir Thomas Roe stands testimony to this fact. He says, 'Cochineal will never sell as a certainty; few know it. For a pound or two some may give a good price; but it is no commoditie of use. Those of Sinda only buy it. The Persians bring a little and retaile it at 35 ruppies the great siere.'[6] The Indian *kirimdānā* is a species of insect which breeds on cacti. Only the female insects of the species are gathered. The colour obtained from them is known as *kirmizī* or *gulāli,* i.e., carmine.

The following process is entailed in its preparation: The required quantity of *Coccus Indicus* is tied in a piece of cotton cloth with lode (*paṭhānī lodha*) and *bujnuk*. For the whole night the compound is allowed to soak in water. Afterwards it is boiled on slow fire and then strained. When the water has evaporated three days old curd (*dahī*) is thoroughly mixed with the colour; if black-shaded carmine is desired no curd is added.

BLUE PIGMENTS

Indigo (*nīl*). This colour was manufactured in India in antiquity and largely exported to Greece and Rome. It is also mentioned in the *Viṣṇudharmottara,* III, 40, 26, as one of the colouring materials. The colour is extracted from certain plant known in modern botany as indigo-ferae. In the beginning it seems to have been largely used for dyeing cloth but later on, specially in the paintings of the Akbar school, it was used as a colour.

Ultramarine azure (*lāzwardī*). The ultramarine azure was used in Indian pictures from ancient times, though lapis lazuli from which this colour was produced is not a product of India.

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[6] *The Embassy of Sir Thomas Roe,* p. 488.

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The blue par excellence in Ajaṇṭā paintings is ultramarine.[7] This however came from outside the Deccan, probably from Persia. Ultramarine is also used in the illustrated palm-leaf manuscripts of the *Prajñāpāramitā* from Bengal and Nepal from the tenth century onwards, and also in the illustrated MSS of the *Kalpasūtra* and *Kālakācāryakathā* belonging to the period between the twelfth and sixteenth centuries.

Ultramarine azure was, however, very popular with the Mughal painters. It was used by the calligraphers and painters alike of Persia, Kashmīr and Delhi. Lapis-lazuli which was the source of the ultramarine azure was also used for the pietra-dura work of the Taj Mahal at Agra. Lapis lazuli formed a chief article of present to the Emperor as noticed by Bernier ,[8] and it is quite possible that the supplies of the lapis lazuli in the Imperial Treasury was well maintained by presents. Tavernier points out the source of lapis lazuli as Badkashān (Afghānistān).[9]

As I have observed the so-called *lāzward* or ultramarine was a very favourite colour with the Indian painters of all times. But the very common appearance of ultramarine in Mughal and Pahāṛī paintings raises a natural doubt whether lapis lazuli, a costly stone, yielded the ultramarine or whether it was obtained from azurite a much cheaper material.

Azurite is a copper ore, which was called 'Armenian Stone' in Pliny's time after its source. In the Middle Ages Latin borrowed a Persian word for blue *lāzward,* in the form of *lazarium,* which became *Azurium* and gave us the word azure (Thompson, *loc. cit.,* p. 130). It seems possible that in the beginning it was used for the Persian blue mineral lapis lazuli, but later on it came to apply to colour blue in general. There are important deposits of azurite in Eastern France and Hungary.

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[7] The *Viṣṇudharmottara, III,* 40, 25, includes *rājavarta* as one of the colouring materials. Dr. Stella Kramrisch has translated the word *rājavarta* as deep coloured brass (*The Viṣñudharmottara,* III, p. 51) but apparently the *rājavarta is* Sanskritised from the Persian word *lāzward,* i.e., lapis lazuli.

[8] After the accession of Aurangzīb the ambassadors from the Khans of Samarqand and Balkh waited on him and presented to him some boxes of lapis lazuli. Bernier, *Travels in the Mughal Empire,* p. 118 *n.* Ed. by A. Constable, London 1891.

[9] *Travels in India,* by Jean Baptiste Travernier, translated and edited by V. Ball, Vol. II, p.156. London 1889.

The stone of azurite is a beautiful dark blue and it is sometimes found free from other minerals. Its resemblance with with lapis called much cofusion in the Middle Ages. The coarser the grain while grinding the better blue they yielded. The reduction of azurite to fine powder meant a pale greenish sky blue. It was necessary to apply several coats of azurite to produce a solid blue.

Ultramarine azure or the blue extracted from lapis lazuli originally seems to have been imported in Europe in manufactured state; later on some processes for separating the colour were invented in Europe (Thompson, *loc. cit.,* pp. 45-46). India also seems to have imported manufactured ultramarine blue as no process of obtaining this colour directly from stone is known. Ultramarine was really an expensive colour and no doubt it could be used at the command of the royalty and rich people.

In the 18th century an artificial ultramarine was invented in France by means of soda, china-clay and sulphur. This colour is not distinguishable from the blue particles of lapis. The only way to distinguish between the real and false is that the ultramarine always contains a large percentage of colourless optically active crystals from the minerals with which it is associated in nature, while the artificial ultramarine is pure blue and free from diluting elements. A little admixture of artificial colour with the genuine and even perfectly trained eye are sure to mistake the resultant mixture for the genuine ultramarine blue of finest quality.

Now reverting to the use of the azurite and lapis lazuli in Indian painting we are aware that the *rājavarta* was known as a colouring material in the *Viṣṇudharmottara.* But this blue must have been a very costly material in ancient times. Now a question rises about the so-called deep blue used in Ajaṇṭā painting. I do not think that it is ultramarine but quite possibly the azure. Even the deep blue of Jain miniatures seems to be azurite. In the Mughal painting, however, real ultramarine azure has been used in costly paintings to denote sky. Sometimes the blues of garments are painted with azurite; the exuberance of blue in calligraphic panels also points it to be azurite than real ultramarine. In Pahāṛī painting the excessive use of azure is apparent. But inspite of all this there is no separate mention of azurite anywhere either in Sanskrit or Persian. It seems possible that azurite and lapis lazuli in Mughal painting went under the same name.

The painters working in the Mughal tradition have forgotten the method of preparing ultramarine though it might have been very similar to the method found in two manuscripts in England attributed to Michæl Scott, the Scotish alchemist, who did much to familiarise the scientists of Europe with the science of the Arabs. In Italy, in the fourteenth century, powdered lapis was mixed with a paste of wax, oil and resin, and kneaded in water. The blue colour came out in the water.[10]

YELLOW PIGMENTS

The beautiful Indian yellow of the Mughal painters is known as *peorī* in Hindi and *gāvgil* (vulgo, *gogilī*) in Persian. This colour has now become extremely rare and a very high price is demanded of whatever stock exists with the dealers at Jaipur.

Mr. Mukerji, who was deputed to enquire about the manufacture of *peorī*, states that it was manufactured at a village called Mirzāpur in Monghyr district. The urine of the cows was collected, allowed to cool, and then heated. The fine sediment was then rolled into balls, dried at first on the charcoal fire, and then in the rays of the sun.[11]

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[10] Thompson, *Materials of Medieval Painting*, pp. 146-148.

Yellow ochre *rāmarj* also yields a brownish yellow.

Gamboge is obtained from a gum known as *sāre-revan,* but being a fugitive colour it was not used by Mughal painters. Later on, however, this colour was greatly used by the painters of Patna school.

Orpiment *(hartal)* was used in the illustrations of the Buddhist palm-leaf manuscripts of the Pāla period and in the miniatures of the illustrated manuscripts of Apabhramśa or Western Indian style. The use of orpiment in Jaipur painting and the Rajput painting as such only reminds us that the Rajput school, though greatly influenced by the Mughal school, retained some of the earlier traditions intact. I have not seen orpiment being used in Mughal painting ; its yellow par excellence being *gogilī* or *peorī.*

GREENS

Harābhāṭā is a kind of silicate of ferrous oxide. Sometimes it is mistaken for terraverte which is not correct as by terraverte is meant different varieties of green earth, the colours obtained from them being rather dull, transparent and soapy in texture. Terraverte is specially used in the late 17th century Mughal paintings to depict the foreground. *Harābhāṭā* is, however, malachite green. This mineral occurs in several modifications in nature, some pale, others bright grassy green , some very hard and stony, and some better suited to colouring, rather friable. Speaking from the geological point of view azurite is a parent and malachite usually represents a changed form of the original blue deposit. The colour is pale, bright, opaque and crystalline. It was extensively used to depict grassy fields, mounds, etc.

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[11] Watt, *Dictionary of Economic Products* in *India,* Vol. VI, Part I, pp. 132-133; also T. N. Mukerji, *Report on Peori Dye,* Journal Society of Art, XXXII, 16 (1883).

Zangāl or verdigris was a favourite green of the Mughal painters and was used frequently in illustrated manuscripts and stray paintings. Verdigris is an acetate of copper prepared by treating the pieces of copper with vinegar. It is an excellent colour and very pleasing to the eyes when fresh, but after some time it is darkened and brown stains appear. Moreover, its effect on paper is disastrous. It has been observed that in the old MSS the parts where verdigris was applied have become so fragile and weak that a little mishandling causes the paper to crumble. Not only that, the effect of the acetate of copper is so strong that the texture of four or five following pages is weakened.

Orpiment or sulphide of arsenic (*hartāl*) mixed with indigo yields a green known as *zaharī* in the terminology of the Mughal painters.

Besides these colours many other shades are obtained by the admixture of one or more colours. Thus purple (*baīganī*) is obtained by mixing vermilion and indigo; dark purple with lamp-black and Indian red (*hiraūjī*) ; *gulpumbah* with gamboge and zinc-white ; *sosanī* with indigo and carmine ; *sonzard* (golden yellow) with red and yellow ; orange colour (*nāranjī*) by mixing yellow with a little vermilion, minium, or carmine ; grey by lamp-black and zinc-white, etc. Grey (*fākhtaī*) has many shades and there is a tendency to obtain many shades from grey. Innumerable shades are obtained by such careful admixture.

Metals were largely used by the Mughal painters for the purposes of painting and decoration. Gold was the metal par excellence of these painters because it trailed with itself the suggestion of power and grandeur, gleaming lustre, and its disiclination to tarnish. In the Mughal paintings lavish use of gold was made not only to delineate certain details of the costume but also to represent the sky at dawn, etc. Not content with this the paste-boards on which the paintings were pasted were profusely decorated with gold displaying the richness and splendour of the Mughal court.

It is not known since when the gold-leaf began to be used for decorating images and paintings, but it is certain that in the early centuries of the Christian era gold-leaves were being used for decorating the stucco images of the Buddha in Gandhāra. The *Viṣṇudharmottara Purāṇa* also mentions gold as a colouring material (*Viṣṇudharmottara*, III, 40, 25), but we do not find the use of gold in the paintings of Ajaṇṭā, Ellura, Bāgh or Badāmī. In the illustrated Jain MSS of the fifteenth century, gold, however, is profusely used. It seems therefore quite possible that the use of gold as a colouring material and also border decoration was introduced in India from Persia where the method of decoration with gold was first introduced by the Timurides in the fifteenth ceentury.[12] In the sixteenth century this method of decoration extended from Bokhārā to various Persian centres. It came to India from Persia, where its use became general. The use of gold was not only confined to the embellishment of the MSS but was also extended in the binding of albums and for the decoration of calligraphic panels.

GOLD POWDER (*halkārī sonā*)

The Mughal painters used gold either as powder for the purpose of painting or gold leaves for decoration; for both purposes thin gold-leaves prepared by the gold-beaters were used. The prevalent method of making gold-powder (*sonā halkarnā*) from the gold leaf is given below.

At first a light coating of honey, glue, thick syrup, or the yellow of the egg is applied to a procelain dish; then the gold-leaf is

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[1] - F. Kühnel and H. Goetz, *Indian Book Painting*, p. 45, London, 1926.

imprinted on it so carefully that no crease or bubble appears. Then it is thoroughly reduced to powder with the light motion of hand. Several gold-leaves are treated in this way : and if the hand does not work due to the stickiness of the honey a few drops of water are sprinkled again and again. After the gold-leaves are thoroughly reduced to powder some more water is added, and this liquid is strained through muslin which is always stirred so as not to allow the gold which is a heavy material to settle on the strainer. Uncrushed particles are not allowed to be strained. This solution is then allowed to settle for fifteen hours. By that time the gold settles down at the bottom of the vessel. The water is then drained slowly. After this the mouth of the vessel is covered with a piece of glass to avoid the contact of dust and then dried and bottled. The required amount of gold is taken from this bottle and used with the size *(sares)* as binding medium. Right proportion of size is desired because if the size is less than the desired proportion the gold will not stick to the painting, and if it is more the gold will lose its lustre and cannot be burnished with the agate burnisher.

In cheaper paintings, specially of Jaipur, instead of applying gold-powder the use of gold-leaf is made. For this the required design is drawn with the size mixed with a little sugar, and when it is dried gold-leaf of required size is pasted over and burnished. Gold-leeaf is used for decorating borders of which two processes are known-*afshān* and *ghubbāra*—about which we will speak later on.

For very ordinary bazar pictures gold-leaf could not be used and therefore to obtain the effect of gold brass-leaf was used in former days and also to-day at Delhi and Jaipur. The patterns are drawn with the exudation of *Gūlar* tree (*Ficus glorometa)* and then brass-leaf of required size is imprinted over them. By this method brass does not tarnish.

OTHER METALLIC POWDERS

Silver-powder or leaf[13] was not much used by the Mughal painters as silver was prone to oxidise after some time. It was used for delineating water and also sometimes in decorating the borders of cheap pictures. **In** lieu of silver painters of Jaipur used tin-powder.[14] The process of making tin-powder is known as *kalaī banānā aur chapakā giṛānā*, 'preparation of the tin-enamel by sprinkling the molten tin.' The molten tin is sprinkled on the ground in such a way that fine leaves are formed. These are gathered and thoroughly pounded with gum and water. Balls are made and used when required.

Mica. Mica as colouring material is mentioned in the *Viṣṇu-dharmottara*, III, 40, 28. Mica-powder is also used as colouring material in cheap Jaipur paintings in place of silver. The powder is known as *abrakhī*. The colour prepared from mica is used separately or with some other colour.

Fine powder of mica is obtained in the following way. Unhusked rice and mica are put together in a gunny bag, and then after being drenched with water the bag is trodden by feet; the fine powder then comes out of the pores of the bag. The Indian tragacanth (*kaṭīlā*) soaked in water, and the pulp obtained by pressing it through a piece of cloth, serves as medium for mica. It is also used for whitewashing the ceiling of the house.[15]

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[13] Silver or *rajata* as colouring material is mentioned in the *Viṣṇu-dharmottara*, III, 40, 25.

[14] The use of tin *(trapuṣa)* as a colouring material is given in the *Viṣṇu-dharmottara*, III, 40, 25.

[15] This practice was also common in ancient India as is evident from a passage in the *Navasāhasāṅkacarita*, XV, 7 where the wall whitewashed *(cchurita)* with mica *(abhraka)* is mentioned.

In tempera painting the importance of binding media cannot be minimised. In such painting pigment and medium are mixed together and then applied in liquid state. When the medium is dried it holds the pigment safely to the ground. Besides this the binding media also modify the optical properties of the pigment.

Gum arabic *(babūl kī gōd)* is obtained in fine crystals from acacia tree, which grows in India from the Pañjāb to Bihār and western Peninsula. It was and is still used as medium for all colours except zinc-white and *peorī*. For these colurs the gum of *dhau (Anogeiss Latifolia)* is used. The *dhau* tree flourishes in the sub-Himālayan tract from the Rāvī eastward and also above three thousand feet in Central and Southern India. This gum is straw-coloured and is greatly used by the calico printers of Lucknow. If *dhau* gum is used with any other colour except zinc-white and *peorī* it curdles *(ladiānā)* thus spoiling the effect of the colour. Tragacanth imported from Persia is only used as medium for mica-powder.

The size *(sares)* used as ground for fixing gold-leaf is prepared by boiling horn, hoof and hide of buffalo.

The soap berry (Hindi—*rīṭhā;* Lat. *Sapindus Sapionaris)* is used as medium when painting is to be done on oily surface. A little soap-berry lather is mixed with water and the painter proceeds to work by constantly dipping his brush in it.

Book-binder's paste or *leī* is used in making paste-boards and and also in sticking pictures and book-binding.

Preparation of the paste *(leī banānā)*.—For the purpose of painting paste is prepared from fine dough, arrowroot and tamarind seeds by boiling in water. Copper sulphate should never be added as a preservative.

Paste obtained from bran *(cokar kī leī)*.—Bran when washed in water yields a glutinous substance which makes good paste.

Tamarind seeds are allowed to remain in water till they are softened. After that the skin is removed, the seeds are dried, pounded and boiled.

In using gum as a medium the painter must be careful that it is added in proper quantity. If it is added in larger quantity than the required proportion the colour becomes *jyādā gōd ranga* and on such colour surface the effect of stippling disappears, and even the fall of a drop of water leaves a faint mark ; on the contrary if the gum is added in lesser quantity (*kam gōd raṅga*) the colour is prone to flake.

CHAPTER III
CRAYON AND BRUSH

Crayon.—The use of crayon for making the first sketch was known in ancient India. *Vartikā* or crayon is referred to in the commentary of the *Saṁyuttanikāya* (II, 5). It was used for painting on panels as well. In the *Daśakumāracarita* (Wilson's ed. p. 92) *varṇa-vartikā* is referred by which the hero drew on the prepared panel. Crayon *(vartikā)* is also mentioned in the *Samarāṅgaṇa-sūtradhāra,* (LXXI, 14, 15,) as the first requisite for painting. In the *Prasanna Rāghava,* a drama by Jayadeva, crayon is known as *śalākā.*[1]

The Mughal painters used sometimes charred tamarind twig *(imlī kā koyalā)* as crayon to draw the first sketch. Since the introduction of pencils, however, the practice of drawing the sketches with charred twigs has been given up.

In Sanskrit the general name for the brush was *tūlikā* (*Saṁyutta Nikāya,* II, 5, *vattikam vā tūlikam vā ādāya ;* see also *Kumārasambhava,* I, 32). In the *Abhilişitārthacintāmaṇi,* SS. 156-157, the word *tūlikā* is used for the brush-handle. The brush proper is *lekhanī*, a synonym of *qalam*. The *Samarāṅgaṇasūtradhāra* uses the word *kūrca* for the brush of which several kinds are mentioned. This word, however, in modern Hindi is used for the brushes for whitewashing, and hence held in contempt by the painters. The word *qalam,* in the terminology of Mughal painters, is used to express two ideas—brush as well as style. Thus it will be said 'this brush *(qalam)* is soft', and Delhi *qalam*, 'the style of Delhi painters'.

The selection of brush is to be made very carefully. If the brush is hard or does not clot when dipped in water the painter is unable to draw a sweeping curve with one stroke, a necessity in the Mughal painting which is essentially calligraphic in nature. The importance of brush in Mughal painting can be judged by the fact that the painters regard it as Creator (*qalam kartār*) as their success depends on its careful manipulation—a very high and endearing compliment indeed.

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[1] *Prasanna Rāghava,* III, 14.

In making proper selection of proper hair for tying brushes (*qalam bādhanā*) the painter keeps two things in view ; firstly only that hair is to be used which clots when dipped in water ; and secondly, it should neither be extra soft or hard. The hair of Persian cat, she buffalo, goat, squirrel and camel satisfy the above mentioned conditions and are therefore used for making brushes. But the brush par excellence of the Mughal painters is obtaind from the tail of a squirrel, because it is easily obtainable and makes excellent brush. It should, however, be kept in mind that while selecting the hair of squirrel its tip should always be black ; the hair with white point does not clot properly and hence is useless for the purpose of brush-making. It is necessary, therefore, to select young squirrels whose downy hair serves the purpose very well. Wetting the tail of a squirrel with water the hair is gathered and cut in the shape of a barley corn. Next the hair is passed through a feather-quill (*pargajā mē qulam utārnā*). The quill should be moistened so that it may not break while cutting, and internal part should be cleaned. After wetting the hair it should be inserted at the top and the tip taken out from the end. Finally the handle (*ḍāḍī*) *is attached*. Brushes of various degrees of fineness equivalent to 00, 0, 1, 2, and 5 of the modern brushes for water-colour paintings are made. Fine or thick brushes may be used for applying colours, stippling, etc.

The point of the brush is called *anī*. Different kinds of brushes are used for the purpose of outlining, colouring, stippling and finishing. For painting pearls and dotting (*dānākī qalam*) a brush with a rounded point, obtained by wearing of the point by constant use, is used. If the point of an ordinary brush is extra sharp then it is cut off by a pen-knife (*qata denā*). *Jadval* or bow-pen is used in drawing straight lines.

While using brush the painter is expected to observe certain rules which if properly kept impart beauty to the lines and colours. Thus it is expected of a good painter that he wields his brush with a light but steady hand (*mulāyam qalam*). If he uses his brush very firmly the line may be technically perfect but it lacks grace and becomes devoid of that lyrical feeling which is essential for Mughal painting. This sensitivity can only be attained if the painter is in perfect accord with his brush (*qalam bas mē honā*). As the pen of an accomplished writer gives the description of a landscape in a few words, so the painter with great economy of lines, draw what he feels and sees (*ṭhekekī qalam*). To attain this quality a good painter should draw his line in a swish (*sanna se qalam calanā*). There should be no break in the lines (*ṭūt paṛanā*). In using brush the following defects shauld be avoided :—(1) The brush should not be used roughly (*carrī qalam*). (2) It should not be shaken off indiscriminately as the colour sticking to the brush is sure to fall on the painting (*qalam phaṭkārnā nahī*). (3) There should not be break and weakness in the lines.

In very ordinary works the jewellery and pearls, etc., are painted by a piece of cotton-wool attached to a handle. This process is known as *moṭarā*.

CHAPTER IV.

METHOD OF PAINTING

After the right selection of paper which is sometimes burnished with an agate burnisher (*ghoṭā, mohrā*)[1] to make it glossy, the painter commences the work with a fresh mind (*tājī tabīyat*).[2] The proper mode in which the painter sat or still sits is *vīrāsana* (one knee bent and another raised); he holds the brush with the thumb and the forefinger, the remaining fingers being gathered within the palm. In the very beginning he touches his brush to the forehead muttering 'Hail to the god Gaṇapati' (*jai Gaṇpati' bābā kī*).[3] If the painter is a Muhammadan he utters '*Bismillah Rahmāṇur Rahīm*' and commences the work (*kāmnādhanā*). If he ha sto draw an imaginary painting (*khyālī*) he meditates upon every detail of the subject, and as soon as everything is clear to him he rapidly sketches (*but bādhanā, ākāra dekhānā*)[4] all the details of the painting with a pencil in these days, and charred and pointed twig of tamarind tree or *arahar* plant (*imli* or *arahar kā koyalā)* or with brush in Mughal period, without caring for the correctness of the drawing.

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[1] *Mohāril or mohrā*, 'burnisher'. **It** is made of agate or some hard stone in the shape of two digits of the middle finger. Gold or silver paints are burnished with it to make them shine. Before burnishing the burnisher is slightly brushed against the nose so that the oily substance adhering to it may stick to the burnisher to facilitate its movement.

[2] *Tājī tabīyat*, 'fresh mind'. It is a dictum of the Mughal painters that best work can only be produced when the mind is fresh and not distracted or tired. In the old *śilpaśāstras* freshness of mind constituted a necessary preliminary before the commencement of painting. Thus in the *Śilparatna* Śl. 376-79, it is pointed out that the painter should begin work 'seated at ease' the mind abiding in itself (*svasthacittaḥ*, i.e., not distracted by externals, *Tāgīkār*, 'freshness in work' so much praised by Abul Faḍl (Āyin. 34, p. 133) is no longer found in modern works.

[3] The *Viṣṇudharmottara*, III, 40, 12-13 also enjoins the worship of the Brāhmaṇas and guru and the reading of *svastivācana* before the commencement of the painting.

[4] *But bādhanā* was known in Sanskrit as *ākāra-mātrikā lekhā*, the outline which gives an impression of the object. Coomaraswamy's identification of the *ākāra-mātrikā-lekhā* with the marginal sketches of the Jain painting seems to be correct, *Technique and Theory of Indian Painting*, p. 74

In sketching rapidly the painter with the help of horizontal and vertical lines and circles creates a rapid impression of the desired object. At this stage the sketch gives the impression of the object though the likeness is far from being exact. Rapid sketching should be accurate to such a degree that with its help the final sketch may be prepared without difficulty. Also it should be accurate to such a point that the lines do not require to be changed or erased.

In taking a portrait (*shabīh)* the painter rapidly sketches (*ṭheke ki qalam)*[5] the salient features of the figure, the eyes, mouth, nose and ears, with a few strokes of the brush. It is, however, necessary that the features sketched should bear resemblance with the respective features of the model.

In making a copy from an original version (*namūnā)* the painter has the original painting before him. If an enlarged copy is to be made he does it by taking different measurements of the picture and enlarging them in proportion, but if the copy is to be of the same size the painter prepares a tracing of the outline from the original on a piece of tracing paper (charbā)[6] which is pricked with a needle and fixed on the paper. A muslin bag filled with fine charcoal powder is then slowly dusted over it. This method is known as *khākā jhāranā.*[7] An easy method of pouncing is evolved by the modern painters of the Mughal school, who apply on the reverse of the tracing powdered red ochre; then a needle with a blunt point is taken over the outline; by doing so the outline is transferred on the paper.

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[5] *Ṭheke ki qalam* is also known as *ākāra nirṇayakaranā.* In the *Abhilaṣitārtha-cintāmaṇi* this is called *ākāra-janikā-rekhā,* Coomarswamy, *The Technique and Theory of Indian Painting,* p. 74.

[6] *Charbā,* 'gold beater's skin', a film obtained from the deer-skin. In olden days tracings were made only on this skin, but now the word *charbā* has become conventionalised being applied to all sorts of tracings whether on skin or on paper.

[7] The first method of pouncing seems to have been referred to in the *Kādambarī* as pointed out by Sivaramamurti in the *Journal of Oriental Research,* Madras, VI, 407. Here the *romarāji* (a thin delicate line of hair) of Puṇḍarīka is compared with a line of charcoal powder.

After the first sketch (*but bādhanā*) in the case of imaginary paintings, the representation of rough details in portraiture, and the transference of outline on the paper in making copy, the painter very carefully distinguishes (*ṭipai*)[8] the details of different figures with a fine brush so as to bring clear likeness (*khat* and *khāl*)[9] with the model ; the colour used to delineate the outline is called *ābrang or likṭī*[10] which is prepared by adding lamp-black to carmine and *peorī* in such a quantity so that it may subdue the redness of carmine. This colour is also used for sketching. In the case of painting a portrait special care is taken by the artist to bring the exactness of the features (*asliyat*) of his model, and when the portrait is absolutely life-like then according to the painter the portrait is ready (*shabīh lagagai*) and he thinks that his efforts are amply repaid. After *ṭipāī*, in which the painter takes great pains in correcting the outlines, he finally draws the correct outline (*saccī ṭipāī*), after which practically no corrections are made. At this stage the painting is covered with a thin coating (*astar*) of zinc-white which is called *zamīn bādhanā*,[11] 'preparing the ground'; this serves two purposes; firstly, it covers the correction lines, and secondly, it covers the tissues and pores of the paper mak-

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[8] In the *Pañcadaśī*, VI. 3, *ṭipāī* is known as *lāñchita* 'marking'.

[9] *Khat* and *khāl*. To bring likeness in a portrait special care should be paid to two points. Firstly, the lines of the face should be perfectly delineated, and secondly, the true complexion should be represented . The artist should, however, give preference to the first, because if the outline of the face is correct, the truthfulness of the complexion of the face becomes a matter of secondary importance.

[10] The word seems to have originated for *kiṭṭa*. In ancient India a pencil made of old slag (*loṣṭha*) and cowdung was used for sketching, *Śilparatna, Sl.* 35-37). According to the *Abhilişitārthacintāmaṇi* it was made of a little boiled rice and lamp-black, *ibid.* Ś. 12.

[11] This process is referred to in the *Samarāṅgaṇasūtradhāra* (Chap. LXXXI, 14), as one of the eight stages in the process of painting. It is called *bhūmi-bandhana*, an exact equivalent of *zamīn bādhanā*.

State Museum,
LUCKNOW.

ing it smooth and impervious to the spilling effect of liquid colours. The lines are slightly visible through the opaque coating, and with their help the final drawing is made (*siyāh qalam*)[12] which should be absolutely correct. When this is over the reverse of the painting is turned on a plate glass or well polished marble and burnished with an agate burnisher which imparts an evenness and mellowed glaze to the surface.[13]

As soon as the final outline and burnishing of the paper are over the painter begins to apply different shades of colours as required on the drawing, the process being technically known as *gadkārī* or *rangāmezī*.[14] As soon as the colour is applied the painting is reversed and burnished; this process is repeated several times. After that the colour sets (*raṅga baiṭhanā*). If the colours overlap each other the artist redraws the erased outline. Thick coatings of colour are never applied as they are prone to flake. Only very thin coatings are applied. The enamel-like effect obtained by many coatings of colour is *gudāz rang*. In applying the light coatings it should be borne in mind that second coating is not applied before the first coating is completely dry otherwise the colour will not fix; this stage is called *tarsukh*, 'dry wet'.

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[12] The term *siyāh qalam* is also used for drawings finished in sepia, with certain details of costume accentuated in colours.

[13] *Ghoṭāi* 'burnishing'. To impart gloss to a painting the following
method is followed while it is being painted and after it is finished. The
face of the painting is turned on a thick plate glass and the reverse is bur-
nished with an agate burnisher till the painting becomes glossy. In the
eight stages of painting mentioned in the *Samarāṅgaṇasūtradhāra*, LXXI,
14, 15, the *karṣakarma* is one. It does not mean drawing as understood
by Coomaraswamy in his commentary on the *Vishṇudharmottara*, XLI,
Jour. Am. Or. So. Vol. 52, p. 17, fn. 8, as *lekhya* and *rekhā-karma* are
mentioned previously. If the reading is emended a little and *ka* is replac-
ed for *gh* then *gharsha-karma* would mean burnishing, a method followed
to bring gloss both to wall painting and miniature. In his com. on the
Abhilshitārthachintāmaṇi Coomarswamy quoting from *Pañchadaśi* tran-
slates *ghaṭṭita* as priming, but as a matter of fact it means burnishing. The
rice paste is applied to the canvas and then burnished to give it a smooth
surface. Even in the art of miniature painting some papers are also bur-
nished after a coating of zinc-white is applied so that the colours are not
soaked by the unsized paper.

[14] The *Vishṇudharmottara*, III, 40, 14 also uses the verb *rañja* for the
process of applying colour. *Rañjayet-raṅgam* is therefore an equivalent of
rangāmezī. The *Atthasālinī*, para 203, text p. 64, calls the process of colour-
ing as *rañjana*.

The colour is always dissolved in water (*raṅga gholanā*) before being used, and the proper quantity of gum added; then it is mixed with the finger (*raṅga mathanā*). Now it is finally ready to be applied to the painting. While using gold or silver the palette is raised to one side. In doing so the colour is deposited at the bottom and the painter uses it when required. The process is technically called as *ghāṭ karanā*. For exceptionally valuable paintings the colours are throughly dissolved in a mother-of-pearl palette (*sīpī*) and the water which contains the finest portion is used; this is *raṅgakā māvā*. Another method to obtain finest portion of colour is to soak á piece of cotton-wool in liquid colour and then to squeeze it in another palette (*raṅga gāranā*).

The painter at first applies colours in the background (*zamīn āsmān*). Next he applies flesh colours to the faces of the human figures (*chihraī*).[15] For this purpose cinnabar, red lead, carmine, red ochre, Indian red mixed with *peorī* or yellow ochre, and zinc-white are used. These mixtures yield shades varying from very fair to dark, and are known as *chihraī*. After this proper colours are applied to clothes and other articles and finally gold is applied on the parts where it is necessary.

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[15] *Chihrai*, 'flesh colour'. A little admixture of *peorī* and zinc-white with vermilion, carmine, cinnabar, red ochre and Indian red yields shades of colours varying from fair to dark. A little admixture of lamp-black with Indian red yields the flesh colour of a negro; flesh colour of the Europeans is obtained from the carmine; of the Kashmiris from vermilion; of the Panjabis from cinnabar; of the people ofGujarat and Western India from red ochre; and of the people of dark complexion from *teliā gerū* or Indian red. In this connection it is interesting to find that the *Viṣṇudharmottara Purāṇa*, III, has devoted a whole section on the body colours of various races, castes and tribes of India. In the ancient paintings of Ajaṇṭā much use was made of various *chihrais*. Yazdani in his *Ajanta* points out the fact that the flesh complexion of the figures varied according to their race, caste, and mood. Yazdani, *Ajanta*, Vol. I, p. 28, fn. 4.

In a painting the parts where two colours of the same shade are applied the painter rapidly applies lighter solution of the desired colour (*raṅga pauṭānā*) first. The other is deepened or its shade a little changed by the addition of another colour (*bāṭake lagānā).* It is also considered wise to apply different colours in such a way that the shade of one colour should blend entirely with the other (*raṅga ghulānā*);[16] there should not be any sharp blending between two colours. To differentiate the colours a line is drawn on the place where two colours meet; this line definitely fixes the boundary (*sarhad-bandī*) of the colours beyond which they should not go.

There are times, however, when in spite of all precautions the painter finds that in the course of applying colours to the picture parts are left out where the colour is of lighter shade than desired. To remove this defect a light solution of the same colour is prepared, and the part where it is to be applied is wetted with water and then the solution is applied over it (*raṅga uḍhānā*) with a steady and rapid movement so that no brush marks appear. This makes the colour look brighter. Sometimes, due to the carelessness of the painter, undesired or wrong colours are applied to paintings. To remove this defect the particular part of the painting where the undesired colour has been applied is wetted, and then with the help of a brush, which is repeatedly washed in fresh water to remove the stains of the colour, the surplus colour is taken away (*raṅga uṭhā lenā*).

The painters keep the following directions in view while preparing or applying colours and act accordingly. The medium should be added in correct proportion. It should be seen that the depth of the colour is kept up and the medium properly added ; if these directions are not followed the colour becomes light and unpleasing (*sevar* or *phīkā raṅga*). If a brilliant colour steals the effect of a lighter colour then the former is said to drown (*raṅga ḍūbanā*) the effects of the latter. Dirty colours (*rōghaṭa raṅga*) are avoided, so also *bhādehar*[17] or gaudy colours. A second coating of colour should only be applied when the first is completely dry, otherwise the effect of the first is completely wiped away. Colour contrast (*khilāf rang)* should be avoided. To remove specks or cut-shades the painting should be covered with a solution of the same colour (*recā lagānā).*

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[16] *Ghulānā*, 'blending'. The colours are blended so cleverly that scratches do not appear. Bāṇa in his *Kādambarī* calls it as *varṇasaṁkara*, Sivaramamurti, *Jo. Or. Re. Mad.* VI, 402.

The Mughal painters have also various denominations for colours according to their nature. Thus there are transparent colours (*ḍākī raṅga*) including carmine, *peoṛī*, *ābrang* and red ochre, verdigris, venetian red, the rest are *gad-raṅg* or opaque colours. The following difference between the *ābrang* and *likṭī* may be noted. In the *likṭī* only carmine and lamp-black are used while in the *ābrang peori,* carimine and lamp-black are used in equal proportion. Then there are also dull colours (*butā ranga)* the effect of dullness being produced by adding lamp-black. Such colours are used in representing night-scene and rainy weather. Also as a general rule the painter, in order to mellow the brilliancy of the colours, mixes with them a negligible part of another colour. This process is technically called *badrang karke lagānā,* 'applying the colour by mellowing its tone'. Fresh colours which retain their brilliancy for a long time are called *cuhacuhātā raṅga,* 'dazzling colours', *shokh raṅga,* 'brilliant colour', and *caṭaka raṅga,* 'deep colour'.

It was by constant experimenting with the colours that the Mughal painters came to know that every colour had an individual nature (*raṅgakā subhāva),* and in applying it to the painting one must be careful that it is suitable for the place where it is applied. Without this the colours lose much of their beauty and the paint-

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[17] *Bhāḍehar,* 'gaudy'. The picture in which too bright and gaudy colours are indiscriminitely used. *Bhāḍehar* is a crudely painted earthen vessel. In the sphere of painting the word sarcastically expresses the gaudiness of the colours.

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ing is spoiled. Thus if a thick coating of zinc-white is applied it will become uneven as zinc-white is a heavy colour.

It is a characteristic of Indian mineral colours that with the lapse of time their enamel-like nature does not disappear but is mellowed down, which is very pleasing to the eyes. This is known as *raṅga basanā,* 'mellowing of the colours'. But if the picture is exposed to the vagaries of the weather then the colours fade (*raṅga uṛanā*). Great value is attached by the painters in burnishing the colours with an agate burnisher (*raṅga baiṭhanā).* This imparts a pleasing gloss to the colours.

Final outlining (*kholāī),* shading (*pardāz),* and finishing touch (*tayyārī kī qalam).*

After the proper colours are applied to the painting its reverse is burnished with an agate burnisher which fixes the colours and imparts an evenness to the whole surface and gives it an enamel-like effect. After this the final outlining (*kholāī, tahrīr)*[18] is done the main purpose of which is to bring into prominence the outline which is generally dimmed in the course of applying colours, etc. To do this a strong solution of colour matching with the colour of that part of the painting on which the final outline is to be drawn is prepared and then used with a little *likṭī* (black and carmine).

Stippling or shading (*pardāz*)[19] forms an important factor in later Mughal painting. It is done with a view to remove specks, to increase the depth of the colours, to deepen the shade, and to remove cut shade. It is, however, not primarily intended to reproduce effects of light and shade as in Western painting but that kind of shading which produces an effect of roundness or relief.

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[18] In Sanskrit literature the process of final outlining was known as *unmīlana* (Pāraskara *Grihyasūtra,* VIII, 19; *Kumārasambhava,* 1, 32, etc.), an exact equivalent of the Hindi word *kholāī,* both meaning 'opening'. In the *Abhilisitārthacintāmaṇi,* S. 162, this process is called *sphuṭ,* 'blossoming', which has practically the same meaning as *unmīlana.* In the Āyin 34, p. 133, final outlining is *chihrah kushāī.*

[19] The word *pardāz* is derived from the Persian root *pardākhtan.* A little colour is taken in a brush and then with close fine lines or dots shading or stippling in done. Abul Fadl (*Āyin* 34, p. 126) uses the word *pardāz* in connection with European paintings. In ancient Sanskrit literature the word *vartanā* is used for shading. It appears in *Aṭṭhasālinī* (PTS. ed. 64). The *Samarāṅgaṇasūtradhāra,* LXXI, 14, counts *vartanā* as one of the eight limbs of painting, and the *Viṣṇudharmottara Purāṇa* III, 41, 5-7, 10 and 11, and 42, 82, treats of *vartanā* at some length.

Stippling or shading with minute parallel lines is *khat pardāz*[20] and with dots *dānā pardāz.*[21] Other methods of stippling are *ghūhā pardāz* in which the dots or lines are placed so close that they are indistinguishable from one another; *dhuūvādhār pardāz,*[22] in which shading is so minute that one stippling cannot be distinguished from another ; *jālīdār pardāz*[23], 'shading with crossed lines'; *gudāz pardāz*[4], 'shading that melts', in which the parallel lines are so closely drawn that the lines melt into one another; and *ek bāl pardāz,*[25] in which every hair is shown separately.

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[20] *Khat pardāz.* A variety of shading with close parallel lines. In the *Viṣṇudharmottara Purāṇa,* III, 41, 5-7, this method of stippling is known as *patra-vartanā* as it resembles the veins of a leaf. This kind of shading is used in Ajaṇṭā paintings to accentuate the details. Yazdani, *Ajantā,* I, p. 2.

[21] *Dānā pardāz,* stippling with dots. In the *Viṣṇudharmottara Purāṇa,* III, 41, 5-7, this method of stippling is known as *vindu vartanā.* In Ajaṇṭā painting shading with dots to accentuate detail was done. Yazdani, *loc. cit.* p. 2. This is also recognisable in Rājpūt painting, where the *vindu vartanā* is used for representing the arm-pit shadow, and the method is taken over thence into early Mughal painting. Coomaraswamy, *Theory and Technique of Indian Painting,* p. 77.

[22] *Dhūvādhār pardāz.* In this kind of minute shading there is no space left between one stippling and the other. This is used for very fine works. The motif seems to be derived from fog created by the tremendous rush of a high water-fall.

[23] *Jālīdār pardāz,* 'shading with hatched lines'. In the *Viṣṇudharmottara Purāṇa,* III, 41, 5-7 this is referred as *harika vartanā.* The correct text is *hairika* as given in a manuscript of the *Viṣṇudharmottara* in the Saraṣwati Bhandar, Benares, and not *āhairika* as suggested by Coomaraswamy who translates it as 'flattened'. Coomaraswamy, *Theory and Technique of Indian Painting,* p. 77. *Hairika* is derived from *hīraka* 'diamond', which was rhomboidal and is the same as *jālīdar pardāz.*

[24] *Gudāz pardāz,* 'shading that melts'. In this kind of shading the parallel lines are so closely drawn that they melt as it were into one another.

[25] *Bāl pardāznā or ek bāl pardāznā,* 'shading the hair'. By fine stippling every single hair is distinguished. This is a special characteristic of the painters of Shāh Jahān period.

When the process of shading to obtain relief is over, the painter applies red lead to hands and feet and paints the jewellery with very fine brush (*dānāki qalam*);[26] the process is called *motī mahāvar* or 'painting the pearls and applying lac-dye'. In order to finish cheap paintings hurriedly colours are applied not by brush but with a piece of cotton-wool (*moṭrā*) which is attached to a handle and tied with thread. The pearls and leaves are painted with it.

The lips are also coloured red (*lab mē lālī*); haloe (*jot*)[27] is represented round the faces of kings and saints; high light *jīva kā khat*)[28] is added; transparent *oṛhnī* is painted (*jhīnā ūḍhānā*)[29] and the whiteness of the eyes is made more prominent. This is the last stage in the Mughal painting; after this the painter carefully scrutinises his work and gives finishing touch to the figures; scenery, etc. (*tayyārī kī qalam*). While giving the finishing touch he endeavours hard to delineate minute details as far as possible (*mahīnkārī*), and sometimes by stumping with a needle he imparts the effect of embroidery to the costume of the figures (*suīkārī*).[30] In the end the painter inscribes his name in a corner (*amal, kār, navishtah, likhitam,* etc.). Now the painting is ready to be handed over to the *waslīgar*, decorator and pager.

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26. *Dānā denekī qalam,* 'brush for applying dots'. To paint pearls etc., in the painting a brush is required whose tip is round. Brushes whose tips are worn out by constant use serve the above mentioned purpose.

27. *Jot,* 'nimbus'. In direct imitation of the nimbus round the sun and moon, great gods, sages and kings have halos round their heads. The underlying motive of this practice is to represent the spiritual power of the kings.

28. *Jīva,* 'high light'. In the process of painting to add a little more light on the place where it is already falling. The use of high light was also made in Ajaṇṭā paintings. In the *Śilpaśāstras* this was known as *ujjvalatā, Śilparatna,* S. 12. In the *Aṭṭhasālinī* (PTS. ed. p. 64) the high light is called *ujjotana* 'to add more light'.

29. *Jhīnā,* 'transparent. In painting, the costumes are sometimes made transparent so that the parts which they cover are visible.

30. With the rounded points of needle the patterns are drawn on the borders of *sāṛī,* etc. By doing this the colours are not erased and the required pattern appears as if it is painted.

CHAPTER V.

PERSPECTIVE, SHADING, AND LANDSCAPE

When the pictorial art grapples with the problem of representing complete scenes or incidents it has to find out certain devices to give a clear and convincing idea of the picture to the spectator. If there are many figures, some near and some farther off, there is confusion; and to distinguish planes some device must be employed. A certain convention, by which the spectator is imagined to be looking at the scene from an elevation so that figures and groups do not come before each other, and the whole scene can be easily grasped, is common to all Asiatic arts. In Persian painting this convention evolved by a slow process and even in mature works of Bihzād and others some primitive devices are followed undisturbed. Thus a carpet is drawn on a ground plan but the rest of the picture may be seen from the stand-point adopted. But as the painter and the spectator were in perfect accord the picture could be perfectly understood and appreciated. The European idea of perspective the Persians and early Mughal painters did not know. They had no share of the European feeling that a picture conforms as closely as possible to visible appearance, 'they had none of the zest in exploration which has made European painting a voyage of discovery; they were content to express themselves on art without atmospheric effect, without light and shade, an art which owed nothing to the study of anatomy or the study of perspective'.[1]

The planes in early Mughal painting are superimposed upon one another as in Persian painting, various devices being employed to distinguish them. Planes are distinguished by the imposition of undulating ground between the planes; by simply deepening the colour with very fine lines; by introducing tufts of grass or flowering plants between the planes, or by painting architectural details and carpets etc. in between the planes. Mughal painting, however, absolutely ignores shadow and does not seek expression through masses. All the planes are animated with life and are painted as if the spectators are seeing all the details before their eyes and have not to conjecture. The mountains may be at a distance appearing visibly nothing but a mass of stones with undulating peaks, and the trees appearing like few smudges of green with a thread-like rivulet wending its way; but according to the Persian convention, the crags, the tree laden with flowers and green with foliage, and all the details of meandering trunks, should be depicted.

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[1] *Persian Miniature Painting*, by Binyon, Wilkinson and Gray, p. 5.

In the representation of architecture—the slender minaret, the tiled floor—every detail of the decoration must be given, though from the point of view of scientific perspective the details may not even be visible to the naked eyes. This is due to the fact that the painter knew that the spectator could understand his point of view and thus achieve aesthetic satisfaction.

This arrangement of the planes according to Persian convention, however, did not last long in Mughal art. Under the influence of European art introduced in the Mughal court by the travellers, missionaries, and ambassadors a new element in Mughal art suggesting atmosphere is introduced. Thus buildings, trees, mountains, or human figures at a distance are represented smaller in size. In the time of Jahāngīr and Shāh Jahān some idea of mass is introduced, specially in the treatment of mountains.

The convention of distinguishing planes, however, does not seem to have found favour with the Dakhnī painters from Bījāpur, Golkoṇḍā and elsewhere. Either patterned or plain monochrome background is used on which the whole scene is painted. The painters only give a statement of fact without bothering their heads about the convention of distinguishing planes. Later on, however, this convention was greatly modified with the increased influence of Mughal school.

In the early eighteenth century in Rājpūt painting yet another convention is used to distinguish planes. Thus a monochrome mound flanked with trees is introduced between the two planes; behind the mound partly visible figures are represented.

As already said, in Western countries the artist obtains the effect of perspective by scientific methods, and his chiaroscuro by high light and cast shadows, but in India as these methods did not exist the effects of relief and modelling were obtained by modelling of the figures and the artistic representation of the objects which is known as *pol dikhānā,*[2] than by cast shadows which were altogether discarded. Conventions in Eastern art have their own appeal, and so long as they satisfy their votaries it does not matter whether they are scientific or not.

The convention which the Mughal painters followed in the matter of perspective was to represent the background and foreground (*zamīn-āsmān*)[3] by somewhat deeper colours. In Mughal art the objects and planes are distinguished either by modelling the figures or shading the ground about them (*sāyā denā*).[4] If the night-scene is depicted the ground is shaded with dark colours (*sāyā gaharā karanā*).[5] Also in some paintings light, shade, and neutral zone are distinguished. The part of the painting where the sunlight (*ãjorā*) is expected to reach is lighted, wrere it does not reach there is darkness (*ādhiyārā*), and in case where there is neither light or darkness only the ground is shown.

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[2] *Pol,* 'modelling', to produce the effect of roundness or curvature. In the *Śiva Tattva Ratnākara* (S. 31a), quoted by Coomaraswamy in the *Technique and Theory of India Painting,* p, 77, for modelling bright colours are applied until the deep darkness is produced (*añcayeddujjvalān varṇān ghanaśyāmalatām vrajet*). Here *añca* means to produce the effect of curvature or roundness, and hence modelling. *Pol dikhānā* and *aṅkana* (from the root *añca* 'to model') are the same.

[3] *Zamīn āsmān,* 'perspective'. *Āsmān* is that part of the picture which is at the farthest point from the spectator and *zamīn* is that part which is nearest to the eye of the spectator.

[4] *Sāyā denā,* 'to shade'. To represent the depth or roundness the colour is deepened and blended with water. In the *Viṣṇudharmottara,* III, light and shade are denoted by the words *śyāmā* and *gaurī.* The shading is to be done while applying colours.

[5] *Sāyā gaharākarnā,* 'to darken the shade'. To show the effect of darkness the ground colour is deepened.

In the representation of the landscape, specially in the representation of mountains, plains and rivers, near and farther points are shown with the help of light and shade (*nīcā ūcā dikhānā*).[6] The objects situated at a distance (*dūr dikhānā*)[7] are represented smaller in size and light coloured, while the objects at close quarter (*nazdīk dikhānā*)[8] are bigger and bright coloured. The inner and outer parts (*bhītar-bāhar dikhānā*)[9] of a building are shown as well as things lying on one side and in front (*bagal aur sāmanā dikhānā*).[10] Some of the conventions are, however, of later date and seem to have been derived from European traditions which came into vogue at the end of the eighteenth century or the beginning of the nineteenth, and hence incorporated by the Mughal painters of that period.

LANDSCAPE

The representation of the landscape in early Mughal paintings is greatly influenced by the Persian conventions. Mughal artists of renown were very found to give realistic effect to the scenery and the animal life which they painted. The trees and mountains are not decorativeely and conventionally treated as in the school of medieval painting which was the precursor of the

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6. *Nīcā ūcā dikhānā,* 'relievo'. In representing the landscape, specially in delineating mountains, rivers and plains, prominence and depression, and the far and near points are represented by glowing and toned down colours and use of outlines. In the *Abhilişitārthacintāmaṇi* (SS. 162-163), *ūcā nīcā* is called *pronnata* (prominence) and *nimna* (depression), corresponding to *nīmnonnata* or *natonnata,* 'relievo" in other texts. Coomaraswamy has quoted a number of references from older texts. . Coomaraswamy, *Theory ond Technique of Indian Painting,* page 76.

7. *Dūr dikhānā,* 'perspective'. Under the influence of European scientific perspective the later Mughal painters showed objects at a distance small and light coloured. As opposed to this the objects at the nearest points are bigger in size and bright coloured.

8. *Nazdīk dikhānā,* 'foreground'. See also *dūrdikhānā,* 'background.

9. *Bhītar bāhar dikhānā.* To represent the inner and outer decoration of the house, including the sitting rooms, etc.

10. *Bagal dikhānā·* To represent the objects lying on both sides of the picture.

Mughal school but in a much realistic fashion. The artist carefully observed the nature of trees and animals with a view to represent them in their picture.

In the *Hamzah Nāmah* the blue sky is represented often with *tai* clouds after Persian fashion, or plain blue tinged with rose or white. In the paintings of the second half of the Akbar period, however, the sky is represented with indigo blue or azure at the top representing horizon, and the lower part of the horizon is often touched with white and rose. The woolly clouds are represented in ultramarine blue on white ground. In Jahāngīr's reign the sky came to be treated in more realistic manner though in his early years it is represented in the same way as during Akbar's time. The blue or grey sky in this period, and also in the periods of Shāh Jahān and Aurangzīb, is painted with naturalistic clouds tinged with the splashes of red, gold, rose, etc. The rainy clouds are always depicted grey.

In the provincial school of Hyderabad in the eighteenth and nineteenth centuries the painters revert to the old practice of representing the sky either in plain indigo blue with splashes of white or just plain azure blue ; the night-scene being represented with stars and moon painted white.

In the early Rājpūt school the treatment of the sky conforms to the Mughal tradition. In the eighteenth century the sky is treated in various ways. The sky in the daylight is painted blue, while in the night it is always grey with white stars and the moon. The sky in rainy weather is also represented grey with serpentine lightning painted in gold and red ; the rainfall is depicted with oblique lines in light grey.

The representation of trees in medieval Hindu art is conventional in the same sense as the representations of trees in the bas-reliefs of Sāñchī, Bharhut and Amarāvatī. Thus in the early paintings of the *Kalpasūtra* (Norman Brown, *Miniature Paintings of the Jain Kalpasūtra*, fig. 67) the trunk of the tree is represented by a meandering line, with the dense foliage indicated by black streaks. The effect is decorative with no pretension for realism (Pl. I, fig. 1-4). Trees are also represented in the same way in early Rāginī paintings of Rājputānā, and even in some later Rāginī paintings ornamental treatment of the trees is preferred (Pl. II, fig. 5-9).

In the early days of the Mughal school trees and flowering shrubs are represented in a realistic manner; the former with zigzag or realistic trunks with hollows and knots (Pls. III-IV, 10-18). The flowers and foliage though retaining some of their natural characteristics are treated more or less conventionally. In painting the trees the ground was painted with indigo and over it the cluster of leaves and branches of mango, banyan and other trees were painted. If a hilly country is represented the plane and other hill trees are represented, mostly in conventional Persian style. In some of the paintings of Akbar school, however, the Indian influence in the representation of landscape is clearly visible. The representation of plantain, mango and cypress trees in the background within a garden enclosure is reminiscent of India influence than the Persian convention according to which trees were not often represented in dense foliage and straight trunks. This shows how the Indian traditions were making inroads in the domain of Persian art conventions, and how in the end the Indian art traditions changed the conception of the imported Persian art to a great extent.

The students of Mughal art know it well that the Persian influence in the time of Jahāngīr recedes more and more into the background, and the full fledged conventions of the Mughal school which were to endure for more than two centuries finally emerge. In the representation of the trees the old convention of the Akbar school, i.e., painting the foliage on the indigo ground was being gradually superseded and in its place the convention of *gucchā bādhanā*, 'representation of the bunches' came into practice. By this convention the trunk of the tree and clusters of leaves were sketched and finally finished without preparing the ground. The tree trunks are not tortuous as in the earlier period but become more straight and natural. The realistic treatment of trees in this period is sometimes reminiscent of the European influence.

From the time of Shāh Jahān onwards the treatment of the trees became too realistic. The trees were 'bunched'; then the leaves were painted, and finally the interspace between one leaf and the other was shaded (*ātarī bharanā*).[11] This convention endured till the time of Aurangzīb and later Mughals as well. The present method of representing trees according to the convention of the Mughal school is as follows :—

In the beginning the tree is sketched showing correctly the knots and modulations of the trunk and branches (*khaṇḍa bā̃ṭanā*).[12] After this the clusters of the leaves are sketched (*gucchā bā̃dhanā*)[13] and then painted. There are, however, certain trees such as banyan, mango and *pipal,* for representing which this method cannot be followed. The leaves are painted (*pattī lagānā*) separately and not in clusters. The folds (*pattī kī ulaṭ*)[14], veins and the backside of the leaves are also shown. This process is teachnically known as *rukh dikhānā,* or 'showing the direction.' If there are any flowers their petals (*pākharī*) and veins are carefully delineated. In the end the intervening space between the leaves and the background is shaded (*ãntarī bharanā*). In garden scenes besides trees, fountains, etc., the flower bed (*kyārī*) is also shown. *Chōkar,* the 'weeping willow', is represented in the background in the pictures expressing erotic sentiment. It has delicate branches bending to the ground.

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[11] *Ātraī bharanā,* 'filling the interspace'. In the drawing of a tree when the leaves are painted interspace is left between leaves; this is filled with lamp-black or very deep shade of green.

[12] *Khaṇḍa bãṭanā,* 'dividing into compartments'. It is one of the characteristics of the early Mughal art that in the representation of the mountains, and the trunks and the branches of a tree, their crags and knots respectively are delineated with meandering lines.

[13] *Gucchā bãdhanā,* 'bunching'. To show the clusters of the leaves after representing the tree. Bunches do not appear in banyan, mango, *pīpal* and *maulsarī* trees.

[14] *Pattī kī ulaṭ dikhānā,* 'to represent the folds of a leaf'. In decorative flowers and foliage the leaves and petals are often shown waving or bending naturally.

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The treatment of mountain in the Mughal art was greatly influenced by Persian convention, At Ajantā the mountains are represented by means of piled cubes with shrubs growing in the crevices, thus giving them a distinct cubic effect (Pl. V, 19). In the Jain illustrated MSS the mountains are represented in four different ways : (1) by flame-like modulations of the peaks (Norman Brown, *Kalpasūtra,* Pls. 33-34, figs. 112-113; 16th. century; Pl. V, 20; (2) by curled lines the interior filled with trefoil arches (Norman Brown, *ibid.,* fig. 24, later 16th. century, Pl. V, 21) ; (3) the mountains represented with piled arches, the interior filled with the figures of wild animals (*ibid.* fig. 33, 16th. century, Pl. V. 22); (4) the top delineated by a meandering line, the middle part with white and black streaks, the white streaks perhaps represent rivers and mountain rivulets, and the black streaks to denote shadow hanging over the mountain tops. The presence of trees flanking the mountain sides suggest the influence of Ajaṇṭā where trees are always associated with mountains (Norman Brown, *ibid.,* fig. 38, 15th. century Pl. V, 23). The Persian painters, however, represented mountains full of crags and crevices, and strewn with boulders, among which sometimes the springing trees and running water are represented (Pl. VI, 24). This convention of representing mountain in Persian art found favour with the painters of the Akbar and Jahāngīr schools (Pl. VI, 25). From the time of Shāh Jahān onwards, influenced by the European traditions, the painters represented mountain with cliffs imbued with the sense of mass, though the earlier convention was still not completely dead. The modern Mughal painters represent the raggedness of the mountains by dividing it into several compartments made of zig-zag lines (*khaṇḍa bāṭnā*) with rivers and streams flowing through it.

In ancient Indian art, as for instance in the paintings of Ajaṇṭā, water is represented by basket-work pattern to which the representations of fish and tortoise and mermen are added (Pl. VI, 26). The same convention was adopted by the Jain painters. The early Rājpūt painters following the ancient traditions represented water by basket-work pattern, but later on in the paintings of Pahāṛī school, water is represented by white lines painted on a grey surface. To give water a realistic touch lotus flowers and acquatic animals are also added.

The Mughal painters have represented water in many ways. In the school of Akbar for instance, in the *Hamzah Nāmah*, the water is represented by white zig-zag lines painted on grey surface the foams being represented by zinc-white. The agitated water is represented by the spirals in zinc-white on grey surface. In the paintings of Jahāngīr period the water is represented by plain grey surface with lotus flowers, which is distinctly an Indian convention (Binyon and Arnold, *Court Painters of the Grand Mughals*, Pl. 15).

The modern Mughal painters adopt mainly two devices for the representation of night scenes. In first class pictures the effect of the darkness is obtained by adding a little indigo blue to all colours. The second device, which is meant for cheaper pictures, is to apply fine powder of the charred tamarind wood with cotton-wool to the pictures. Thus day scenes can also be converted to night scenes. The process is known as *kajariānā* or 'blackening'.

CHAPTER VI.

STANCES AND PROPORTION.

Human figure in Mughal painting is represented in many positions, such as front view (*sanmukha cihrā*)[1], three-quarter view (*paune do cashm*)[2], one and a half view (*ḍeḍha cashm*)[3], one and a quarter view (*savā cashm*)[4], a little more than profile, and the back view (*ulṭā cihrā*)[5] (Pl. VII 27-32). Again the figure may be either in left (*bāyī ekcashmī*)[6] or right (*dāhini ekcashmī*) profile according to the position of the man or woman portrayed (Pl. VII, 33-34).

A careful study of the early Mughal paintings of Akbar period will show that the figures were usually drawn in three-quarter view ; strict profile was sparingly used. This was due to the influence of the Persian art tradition which gave preference to three-quarter view in the representation of the faces. With the development of the Mughal school, however, the convention of representing figures in three-quarter view passed out of practice, and its place was taken up by the strict profile. This

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1. *Sanmukh cihrā* or *do cashm*, 'full view'. The stance which re-
presents the full view of the body. In Sanskrit it is called *sammukha* or
samānata. In the *Visṇudharmottara* III, 39, this pose is called *anṛju*.
2. *Paunedo cashm*, 'three-quarter view'. The portrait in which one full
side of the face and the three fourth-part of the other side is visible.
3. *Ḍeḍha casham*. The portrait in which one side of the face is fully re-
presented, and on the other side half temple and chin are visible.
4. *Savā casham*. In this stance one side of the face is fully represented,
and one fourth of the other side from the temple to chin.
5. *Ulṭā chihrā*. The face is so turned back as to reveal the view
of back. In the *Viṣṇudharmottara*, III, 39, this view is called *pṛṣhthā-
gata*, 'derived from the back.'
6. *Ekcashm*, 'profile.' In this pose only half part of the face is seen.
The right profile is dāhinī *ekcashmī*, and the left *bāī ekcashmī*. In
the *Viṣṇudharmottara*, III. 39, this pose has three synonyms, namely. *chāyā-
gata*, *pārśvagata* and *bhittika*.

change must have been due to the fact that in drawing a portrait in profile one side of the contour of the face can be easily drawn by the painter, while in three-quarter or front view the painter has to begin with the sketching of the eyes, then nose, lips and chin, and then finish by outlining the face, a very tedious and difficult process.

It will be, however, interesting in this connection to trace the development of profile in Mughal art with reference to early Indian paintings. Going back to the paintings of Ajantā, which are one of the earliest documents for the study of Indian painting, we find that the figures are represented in three-quarter view, i.e. one side of the face is fully represented, while only two-third or three-fourth part of the other side is represented (Pl. VIII, 34). This was one of the conventions of the art of Ajantā, but with the decadance of art we find that in the later paintings at Ajantā though the convention of the three-quarter view is maintained some changes are effected. The change consisted in representing the farther cheek somewhat lesser than three-quarter part, with the consequence that the forehead, nose and chin remained in the same position as in the three-quarter view of the earlier paintings, but by pinching of the farther cheek the farther eye begins to produce beyond the line of the face into space, (Pl. VIII. 36) till a stage is reached when the characteristics of the period of decadance as reflected in the paintings of Ellurā and the Jain manuscripts begin to appear. The nose is pointed sharply, and the farther cheek though represented is so much pinched that the farther eye represented in the scale of three-quarter view protrudes beyond the line of the face in the empty space (Pl. VIII, 37). In figure 37 we can mark the gradual emergence of the profile from the three-quarter view, though it took more than half a millenium before the convention of depicting faces in rigid profile became firmly established in Indian painting.

Coming to the paintings of Raṅgamahal at Ellurā we find that the painters while maintaining the convention of three-quarter view of Ajantā school have tried to simplify it and form a convention of their own. In the previous paragraph we have seen that in the latest paintings of the Ajantā school the farther cheek of the face represented in three-quarter view is very much thinned ; in the paintings of Ellurā this pinching of the farther cheek is carried even to a greater extent, so much so that it practically disappears, only the part near nose wing being shown (Pl. VIII. 38). The resulting convention may be described thus : the representation of one side of the face is in profile, while the convention of the three-quarter view is maintained by the representation of a part of the farther forehead including the eyebrow and a part of the chin. This is a further stage in the degeneration of the three-quarter view into profile. This convention of representing the human face is maintained in early palm-leaf manuscripts of the Jain Bhaṇḍārs. The face of the goddess Chakreśvarī Devi (Norman Brown, *Story of Kālaka,* Plate 1, fig. 2 ; see also fig. 6 ; Pl. VIII, 39) is also drawn according to the tradition of the painters of Ellurā, though the farther eye does not protrude ; but in the same period we find figures represented in the pose which to all intents are in profile except the representation of a part of the farther eyebrow and the eye which protrudes into space (Pl. VIII 40). It is apparent that there was a struggle between the old tradition of representing the human face in the three-quarter view and the new convention of representing it in profile, and gradually the latter was ousting the former. The rigid convention of the older school was, however, persisting tenaciously, and as a compromise between the old and the new, the painters allowed to remain in the new convention the representation of a part of the farther forehead and the eye which protrudes into the space due to the pinching of the cheek, - the vestiges of the old convention of the three-quarter view. How far the three-quarter view had degenerated on the side of profile in Western

Indian paintings can be judged by the simple method of drawing a line from the middle of the forehead of a Jain figure to its chin; it will be then seen that, except for the farther eye and the portion of the forehead, the figure is in profile. In later Western Indian paintings, however, even the length of the farther forehead diminishes and only the farther protruding eye remains to tell the story of the nascence of this pose from the three-quarter profile (Pl. VIII, 41).

In this connection it would not be out of place to mention the view of Prof. Norman Brown who maintains that the protuberance of the farther eye in Western Indian paintings is due to the fact that the school originated from the Śvetāmbara temples where idols of the Tīrthamkaras wearing additional glass eyes, which if viewed from an angle, showed that the farther eye protruded beyond the line of the cheek into space, and the painters copied this (Norman Brown, *Story of Kālaka,* p. 16). But to substantiate his theory Prof. Norman Brown ought to have proved at first that the practice of putting glass eyes, *netra* as they are called in the terminology of the Vaiṣṇavas, is of some antiquity. At least he ought to have proved that this practice was common in the fifteenth century or even earlier. To us this practice of affixing glass eyes to the idols seems to be of recent origin, which the Vaiṣṇavities, the Śakti worshippers and the Jaina have adopted. These glass eyes, or more correctly, enamelled silver eyes are more commonly used in the Vaiṣṇava idols of the Vallabhācārya sect than in the Śvetāmbara Jain images; and the possibility is that the latter borrowed this from the former. Moreover, the convention of the protuberance of the farther eye into space is not only confined to the Jain paintings of Gujarāt but is also found in the contemporary paintings from different parts of India which certainly could not have been inspired by the Śvetāmbara icons.

In my opinion the very assumption that there is anything like Jain school, Gujarāt school, or Western Indian school is erroneous on the simple argument that most of the pictorial documents which form the source of our information hail from Gujarāt, and therefore the school of medieval painting originated from there. There are, however, evidences that this school also existed in the north. The Bhārat Kalā Bhawan, Benares, is in possession of a set of paintings forming a part of some medieval Hindi romance in Avadhī dialect of Hindī written in Persian script in the same style as the Jain paintings of the same period. Āri frescoes in far off Burma, and certain illustrated palm-leaf MSS of *Prajñāpāramitā* written and illustrated in Nepal and Bengal prove that this style was very widely diffused. The reason is not far to seek. In ancient India there was a uniformity of conventions among the painters regarding the model human type, aesthetic view point, etc. These very conventions continued in medieval India in a decadent form. A parallel can be cited from the linguistic sphere. As from Sanskrit, the parent stock, different forms of Prākṛts and Apabhraṁśas evolved, so from the old pictorial traditions which may be compared with the language of the artists, sprung the medieval art traditions which may rightfully claim a name not Western or Eastern school of Indian painting but more rightly Apabhraṁśa school.

This was the method of representing human figures in Indian art when the Persian influence gave a new shape to the decadent art. A close study of the Mughal portraits of Akbar and Jahāngīr periods will show us as to what extent the Persian art traditions had imbibed the spirit of old art traditions, discarding what was useless and decadent. In the matter of representing the faces the early Mughal artists gave preference to three-quarter view adopted from the canons of Persian painters, but with the greater fusion of the artistic traditions of both countries and the increased employment of Indian artists the old method of representing the faces in the pose reminiscent of the three-quarter view as in the medieval paintings was resorted with certain changes which consisted in representing a part of the farther eyebrow but discarding the farther eye, an ugly feature of the medieval paintings. These changes took away the stiffness of medieval convention and added elegance to the representation of human figure. But this method of representation was not a lasting phase in Mughal art; it had to make way for the rigid profile. From the time of Sḥāh Jahān onwards the faces were mostly represented in rigid profile; all the vestiges of ancient three-quarter view had disappeared.

PROPORTION

Mughal artists have their own ideas of anatomy and proportions of the human body, which is called *kaxṛā,*[7] 'proportion' deviation from which is considered a serious defect technically known as *bad-kaiṛā* or 'weakness in proportion'. One of the requirements of a good painter in Mughal style is that his figures should be in right proportion (*kaiṛedār*);[8] they should have proper height and girth (*aṅga-kad*),[8] and they should be poised gracefully (*malkān* or *mormurak*).

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[7] *Kaiṛā*; S. *kāṇḍa,* 'proportion', the exact proportion of a certain limb in relation to the other parts of the body. The artists of the different countries have their own ideal of proportion. Accoding to the ideal of proportion in Western countries the body of a man should be nine times the length of the face; and that of the woman seven times. According to the Indian *Silpaśāstras* the body should measure seven, eight, nine or ten *tālas*. The ideal of proportion of the Mughal artists was that the measurement of the body should never exceed nine times the length of the face.

[8] An artist versed in the science of proportion is *kaiṛedār*; while without its knowledge he is *bad-kaiṛā*. कैंड़ेदार and वदकंड़ा ।

According to the tradition of the Mughal painters the height of the body should be 8, $8\frac{1}{4}$, $8\frac{1}{2}$, and at most 9 spans; beyond that the figure goes out of proportion. The face should measure one span; the middle point of the chest falls on the second span; the navel on the third; the penis on the fourth; thigh at the fifth; knees at the sixth; shin at the seventh span, and the foot at the eighth span. If the body is represented more than eight spans in height the distances between the parts of the body described above are increased. The following is also the proper length or breadth of the various parts of the body :— The breadth of an eye is one digit or *aṅgul ;* the ears are situated at a distance of two *aṅguls* from the eyes; the nose is two *aṅguls* long; the mouth and the chin measure two *aṅguls* (mouth one *aṅgul,* chin one *aṅgul) ;* the length of the neck is three *aṅguls ;* the breadth of the temple is four *aṅguls ;* length of the shoulder blades is one span ; length of the forearm is two spans; length of the arm including the hand is four spans ; length of the stomach is four spans, etc. The proportion of the other parts of the body should be determined according to the observation of the painter.

A good painter is expected to draw the line of the face correctly, and is also expected to represent the flesh colour correctly (*khat khāl*). Great importance is attached to the exact representation of the contour of the face. Flesh colour is only a matter of secondary importance. Above all the painter should try to bring out the true nature of the individual portrayed (*subhāva milānā*). The portrait may be perfect from all points of

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9. *Aṅga-kad*. The exact proportion of the body in relation to the limbs. In Sanskrit proportion is known as *pramāṇa* (*Abhiliṣitārthacintāmaṇi*, S. 158) The proportion of the body has to be ascertained before the work is commenced. Yaśodhara, the commentator of the *Kāmasūtra*, counts *pramāṇa* as one of the six limbs of painting, and in the *Viṣṇudharmottara Purāṇa*. III, 41, 9) it is considered one of the merits of painting.

view but if it does not express the nature of the object then it loses much of its charm. In portraiture only outward semblance is not everything; the expression of inward feeling should also be stressed.

An important contribution of the indigenous Indian art to the Mughal school of painting is *mudrās* or graceful hand poses. The most common hand poses represented in the Mughal paintings are *añjali* (folded hands), *kaṭkā-mukha* (two finger extended, the rest closed), *ardha-candra* and *patākā* (palm with upraised fingers).

CHAPTER VII.

DECORATION AND BORDER.

The art of draughtsmanship forms a necessary part of the training of a Mughal painter, and for this purpose an artist of this school provides himself with a set-square (*konia*), ruler (*nestar* or *kābī)* and a compass (*parkār*) ; but constant practice makes him so expert in drawing circles and straight lines that he seldom requires the help of these geometrical instruments.

In drawing a Mughal artist does not simply depend on his memory but takes the help of carefully prepared drawings of the human and animal figures, costumes, and ornaments, etc.[10] To draw an accurate and detailed plan of a building the artist-cum-draughtsman prepares the ground plan (*paṛā naqshā*),[11] horizontal section (*phēṭa kā naqshā*), vertical section (*khaṛā naqshā*),[12] and cross-section (*cīrkā naqshā*).[13] If both sides of the design are similar, one half is accurately drawn (*ādhā naqshā*), and the other half is traced (*naqshā likh ke duharā karanā*).[14]

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[10] *Naqshā*, 'design', the designs of the various parts of building. The artists while painting keep before them the drawings of costume, ornaments, etc., which are also termed *naqshā*. The word is also used in the following idioms : *Naqshā likhanā* 'to draw designs,' *naqshā jamānā* 'to see whether the design is correct,' *naqshā sodhanā* 'to amend the mistakes of the design,' *naqshā sudhārnā* 'to effect change in the design.'

[11] *Paṛa naqshā*, 'ground plan.' The plan showing the divisions of a building on the same level as the surface of the ground.

[12] *Khaṛā naqshā*, 'vertical section.' The geometrical representation of a building in vertical section as opposed to the ground plan.

[13] *Cīr kā naqsā*, 'tranverse section.' The representation of an object as if cut asunder vertically so as to show the internal structure.

[14] *Naqshā acchā likhkar duharā karanā*. In the designs where both side have the same pattern one side is drawn correctly on *charbā* and traced. By smearing charcoal powder on the back of the *charbā* the other side is also traced. The full design is then outlined. This is a labour-saving device.

Border lines (*khat*).[15] In the days of the great Mughals the painting, after it was finished was handed over to the *waslīgar*, who after mounting it handed it over to the line-drawer (*jadval-ārāyān*) who in his-turn handed it over to *naqqāsh* (decorator) for decoration (*naqqāshī*).[16] But in these days the artist himself draws the border-lines and decorates the border with floral scrolls, etc. The artist by accurate measurements fixes the positions of the lines (*khat*) and bands (*paṭṭī*)[17] that enclose the painting. He is also to bear in his mind that the colours which he uses for his lines and bands must either harmonise or contrast with the colour scheme of the painting. Bow-pen (*jadwal*) is used to draw the lines. In drawing the lines a very narrow space is left between the two decorative lines or bands which is called *cīsī*. The bands in between the lines are decorated with floral designs. The remaining portion of the mount or *hāshiyā*[18] is then decorated either with gold or some kind of floral design.

In making these decorative designs the painter should bear many points in his mind. Firstly he should choose appropriate design befitting the picture (*juhān*)[19]; secondly the design should be spaced regularly otherwise it would lose harmony and gaps (*khāḍahar*)[20] would appear; thirdly while decorating the mount with the regular rows of decorative flowers equal space (*gallī*)[21] should be left between all the rows; and fourthly, repeated designs should be painted (*jamoga*)[22] at fixed intervals. It is also expected of a good painter that his decorative designs are firm (*zordār*)[23] and closely knitted (*gaṭhi huī*)[24] and balanced (*jawāb*).

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[15] *Khat*, 'lines.' For decorative purpose straight lines in various colours in harmony or contrast with the colour scheme of the painting are drawn on the border. The *Āyīn-i Akbarī* (*Āyīn*, 34, p. 134) mentions *jadwal ārāyān* or line drawers who were employed in the Mughal *kārkhānās* where they were classed separately from the artists. Those lines which are drawn on the border to limit the four corners of the painting are also known as *khats*. The *khats* are the same as the *paryanta rekhā*, 'the lines that limit.'

[16] *Naqqāshī*, 'decorative ornament.' All ornaments used to decorate the pictures are *naqqāshī*. The bird and animal drawings were perhaps also included in *naqqāshī*. as Ustād Mansūr, the famous bird and animal painter in the time of Jahāngīr, calls himself *naqqāsh*. In the time of Akbar the decorators, *naqqāshān*, formed a seperate class from the painters, and their art was known as *naqsh-i-nigāshtī*, 'the art of decoration.' (*Āyīn*, 34, p. 133, 134).

[17] *Paṭṭī*, 'band.' Coloured bands in the borders used for drawing floral decorations, or powdering with gold. Sometimes they are left plain without any decoration.

[18] *Hāshiyā*, 'border.' That narrow or broad band which runs on all sides of the picture. This is done for the safety as well as decoration of the picture. *Hāshiyā likhanā*, 'to draw or paint the border.'

The first process in drawing the decorative design is to mark the position of the flowers etc., on the border with dots (*godā*)[25], then the compartments for various designs are determined (*gharbandī*).[26] When the decoration is finished lines are drawn on four sides of the border connected with the loops in the shape of twisted knots (*ḍori ḍaṇḍā*).[27]

The flower and leaf patterns are called *būṭā*[28] or *būṭī*,[29] the small flower being *būṭī* and bigger flower *būṭā*. In such designs the flowers are painted separately in diagonally assorted rows, the space between each row being equal. The process of drawing such patterns is called *chìṭa likhanā*.[30] The flower drawn with the help of four dots is *chaudaniā*,[31] three-petalled flowers is *tipatiā*,[32] and the four-petalled one *caupatiā*. The decorative flower is made of two parts, petals (*paṅkhaṛī*), and stamen (*murrī*).[33]

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[19] *Juhān,* (जुहान) 'fixing.' To paint appropriate objects and floral designs at their proper places.

[20] *Khāḍahar paṛanā,* 'appearance of gaps.' It is a principle of Indian designers that in drawing the decorative patterns no extra space should be left between one part and the other. If some extra space is left it is counted as a defect and hence should be avoided by the artist.

[21] *Gallī,* 'lane.' In drawing floral patterns space is left between two designs. The measurement of the space should be carefully determined beforehand as it should be of the same dimension everywhere.

[22] *Jamoga,* 'balance.' To have balance in the composition it is necessary that appropriate designs following one another should be painted.

[23] *Zordār,* 'vigorous'. In draughtsmanship and painting the perfectness of curves and meanders make the drawing beautiful and vigorous.

[24] *Gaṭhī huī,* 'compact.' In floral scrolls no extra space should be left between two designs as this practice mars the beauty of the pattern.

[25] *Godā.* In drawing a figure in correct proportion dots are marked at required points.

[26] *Gharbandī,* 'compartment.' Dividing the border into compartments for drawing floral scrolls.

[27] *Ḍorī ḍaṇḍā.* The lines drawn on four sides within which decorative designs are drawn is *ḍaṇḍā,* and the loops to join all the four corners of *ḍaṇḍā* is *ḍorī.*

[28] *Būṭā.* Big decorative flowers or leaves painted singly.

[29] *Būṭī.* Small decorative flowers or leaves painted singly.

For more elaborate designs floral scrolls (*bel*)[34] and floral rhizomes (*later*) are drawn (Pl. IX, 42-43), the only difference between the two being that in the former the design is oft repeated, while in the latter many twigs are shown, and the uniformity in the design is not maintained.

A very common decorative motif is meander (*baradmutān*)[35] in which the curves (*khānā*) are filled with floral designs.

In *dohrī bel* or double meander two meanders cross and the interspaces in ascending and descending loops are filled with flowers and leaves.

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[30] *Chīṭ likhnā.* (छींट लिखना) To draw flowers at equal or parallel distances.

[31] *Caudaniā*, 'four dots.' A decorative flower or rhomboid shape consisting of four dots.

[32] *Tipatiā*, 'three-leaved.' A decorative leaf with three petals.

[33] *Murrī*, 'tendrils.' A curved line or tendril. It should be drawn with one sweep of the brush.

[34] *Bel.* 'floral scroll.' That decorative creeper in which floral design is repeated again and again. The only difference between the creeper motif (*latar*) and *bel* is that in the former the designs of the shoots vary, while in the latter it is the same. *Bel likhanā*, 'to draw scrolls.' *Bel kāyam karanā*, 'to draw scrolls after particular designs.'

[35] *Baradmutān*, 'meander', Sanskrit, *Gomūtrikā*, 'wavy pattern'. The motif is derived from the bullock urinating while passing on his track. The act produces a wavy pattern on the track. In the compartment of the meanders floral design, etc., are drawn. In the *Viṣṇudharmottara*, III, 41, 3, this motif seems to have been mentioned under the name of *vaiṇika*, which is derived from *veṇī* coiffure. The entwined meanders are of the same shape as the coiffure twisted in basket-work pattern. Coomarswamy translates the word as lyrical derived from *vīṇā*, lyre. (*Journal of the American Oriental Society*. Vol. 52, p. 13).

Half-egg design (*sahresā*) is used in decorating buildings and borders of paintings. This design with face upwards is *ulṭā sahresā,* and when two rows of half egg design one going up and another down is drawn it is *dohrā sahresā.*

The *jŏkī*[36] or interlaced meanders technically known as guilloche seem to have been derived from leech (Pl. IX, 44). The difference between the *dohrībel* and guilloche is that in the former the double meanders are not interlaced and the space filled with the floral designs.

Cauphuliā or four petalled flower was a favourite motif of the Mughal painters. In this motif the flowers are connected with one another by the stems and leaves (Pl. X, 45). Another variation of the same design is *āṛī* or horizontal *cauphuliā* in which the leaves spring in both directions.

Lozenge and circle *(nag javāhir),* a very ancient Hindu decorative motif, palmate (*pañjak*)[37] (Pl. X, 46), lozenge *(sakarpārā),* triangles with their bases joined (*sīghāṛā*), curled leaves *(mārvāṛī)*[38] and the scale of fish pattern motifs (*sehrā*) constantly serve the purpose of decorating the border of a painting. Another kind of *bel* which made the design very attractive is 'garland pattern *(gajre kī bel)* in which a simple meander entwines with a wavy **garland.**

There are other decorative motifs which are used for the decoration of buildings *(imāratī likhāī)* in painting. The rosettes painted on the ceiling (*phullā*)[39], *kishti*[40] or floral scrolls in circles and ovaloids, diaper with onion-shaped compartments filied with flowers and leaves (*badrūn*) (Pl. IX, 47), flower stick pattern (*chḍaṛī*),[41] circle filled with arabesque (*candā*) Pl. IX, 48), spiral (*pechak*), *daṇḍā murrī*[42] or bent twigs with curved points jutting out, from which creepers hang, flower-vase motif (*gul-dastā*), *jāgalā*[43] or the interlacing of flowers, leaves and creepers (Pl. IX, 49), *turñj*, or the floral motif in the corners of the border, and *koniā*, or decorative flowers in the corners of the borders are some of the decorative motifs which were favourite decorative motifs of the later Mughal painters, and are still common.

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[36] *Jōkī.* 'Leech motif.' Two meanders intertwining to form a chain. It is called guilloche in English. The motif is derived from entwined leeches.

[37] *Pañjak* . 'Palmate.' A decorative leaf with five petals. This design is a decorative form of the ancient *pañcāṅgulaka* design in which the palm dipped in colour was impressed on the walls on auspicious occasions. (*Mahavamsa* XXXII, 4). This practice is still prevalent.

[38] *Mārvāṛī.* A variety of floral scroll in which the leaves imitate lotus petals.

In drawing the floral scrolls intermixed with leaves the painter should first determine the places of the flowers in the design, otherwise, the design will lose its uniformity. This process of determining the places of the flowers is technically known as *phūl bo jānā*.[44] In the garden scenes flower beds are represented

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[39] *Phullā*, 'rosette.' The decorative lotus flowers in full blossom painted on the ceiling.

[40] *Kishtī*. An oval compartment in which various decorative patterns are drawn.

[41] *Chṛaī*. 'stick.' This decorative motif has originated from flower stick, which is made by entwining flowers and leaves on a bamboo stick. The flower stick motif was common in ancient India. In the Mahāvamsa it is known as *latāyaṭṭhi, kusumyaṭṭhi* (Mahavaṁsa, XI, 10-13); it often supported birds and animals (*sakuna yaṭṭhi*).

[42] *Ḍaṇḍā murrī*. In decorative floral design the curved stamen of the flowers is *ḍaṇḍa*, and projection of two sides are *murrī*. from which creepers hang. This motif is derived from the pergola of bamboo on which creepers hang.

[43] *Jāgalā*, 'forest'. That decorative motif in which there is exuberance of entwining creepers and flowers.

[44] *Phūl bojānā*. In drawing floral scrolls flowers are drawn at fixed distances. In doing so it becomes easy for the painter to draw the stamen, foliage etc., faultlessly.

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(pārchā). In some paintings the border is painted with a jungle scene with animals both mythical and actual disporting themselves *(shikārgāh)*[45] (Pl. IX, 50).

It is a well known fact that the Persians, and subsequently the Mughal painters, fully realised the decorative value of gold, and therefore they constantly employed it in the general colour scheme of the painting, in drawing the decorative details of the border, and also in 'dusting' the border with it. For the last process the portion of the border on which the gold is to be sprinkled or thinly coated with the size *(bat)*,[46] then fine gold powder *(ghubbāra)* from a pouncing bag, or tiny pieces of gold are applied to it. The latter process is called *afshān*[47] or *shafaq*. The gold is fixed by smoothly pressing the surface with a piece of cloth. To import glossiness the surface is burnished with an agate burnisher.

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[45] *Shikārgāh*, 'hunting scene'. This was a very favourite motif of the Persians from whom it was borrowed in Indian art as a decorative motif.

[46] *Bat*. The size for gold called *bat* is prepared by mixing a little sugar with the size. This is used as medium for painting gold and also its thin solution for fixing gold leaves.

Bat lagāke sonā chāpanā, 'to imprint gold after applying *bat*.' *Bat* is applied only on that part of the picture where gold-leaf is to be printed. After the surface is ready the required part of gold-leaf is fixed with fingers. It should be borne in mind that *bat* should be a little moist when the gold-leaf is imprinted as without moisture the leaf will not stick. The sugar is mixed in the glue so that it should remain moist. Sometimes the surface is also puffed with breath to moisten it.

[47] *Afshān*, "puffing with gold leaf or powder'. Gold and silver leaves are used for the decoration of the border of a painting. In powdering the border with tiny pieces of gold-leaf the gold-leaf with paper is inserted in a thin hollowed piece of bamboo and one end taken out from a recess cut lengthwise. The border is smeared with glue water and then with a hard brush the leaf is tapped; the pieces falling on the surface are pressed with a cloth. In powdering the border with fine particles of gold (*ghubbāra*) the gold leaf is put in a sieve with very fine holes and is sifted on the desired place with a hard brush. In the *Āyīn Akbarī* (*Āyīn* 34, p. 134) the gilders are called *mazhibbān*. (मज़हिब्बां) The process seems to have originated from China.

The following methods are also employed in decorating the borders.

Mīnākārī, 'enamelling'. Design in many colours in direct imitation of enamelling on gold and silver is *kimkhāb kī likhāī*, 'decorative patterns based on the scrolls in *kimkhāb*'. *Kimkhāb* is a heavy brocade in which on plain or coloured ground decorative floral scrolls and creepers, etc., are woven. In the sphere of painting the designs derived from this are painted on the borders. Sometimes the ground is painted with silver or gold and then the patterns are drawn in various colours.

Abar (*abar*) *likhanā*. The decorative design derived from the curls of the clouds.

Gulcharre ki likhāī. The floral patterns are painted in gold and filled in with various colours.

Munabbat, 'raised design'. Pottery pieces are rubbed on stone to the consistency of sandal wood paste. Mixed with a little glue it is used for drawing raised designs. After the design is finished colours are applied.

Chiṛkāo, '*sprinkling*'. To decorate the border sometimes the colour is sprayed.

Qata. A certain metre in Persian. Now the term is used for all calligraphic examples in Persian. The calligraphic panels are generally affixed on the reverse side of the paste-board.

CHAPTER VIII.

The ARTIST (*musawwir*), the PUPIL (*shāgird*), and the WORKSHOP (*kārkhāna*).

Paintings in the terminology of the Mughal painters are called *taswīr,* which are of two kinds: *shabīh*[1] (likeness) or realistic portrait of animate or inanimate objects, with the adjective *shahāhat* meaning the point of resemblance,[2] and the verb *shabīh lagānā,* the act of taking portrait, and *khyālī,* 'imaginary', in which the picture is painted with the help of memory and not based on models. The work of a painter is known in Persian as *aml, kār,* etc. In the Rājpūt school, however, the generic term for painting is *citra;* the pictures of gods and goddesses are known as *chabi* and the process of painting is *urehanā* (Sans. *ullekhana)* and *likhanā,* both standing for the infinitive, 'to draw'. In the vocabulary of Pahāṛī painters a single painting is called *paṭṭā* derived from *paṭa* (cloth), as the paintings in the Himālayan region were done on silk or canvas. This word has now lost its original significance and is used as a generic term for all classes of paintings.

The pictures are painted either in standing position (*khaṛī taswīr*) or horizontal position (*paṛī taswīr*). They are also sometimes oval (*badāmā*), ovaloid (*gol badāmā*), oval in which vertical dimension does not exceed horizontal (*nāṭā badāmā*) and oval drawn in horizontal position (*beṛā badāmā*).

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[1] *Musawwir,* 'painter' (*Āyin* 34. p. 134). His work is known as *taswir ārāī, tamsāl ārāī, aml, navishtah, etc.*

[2] *Asaliyal,* 'resemblance'; *Sādṛśya.* One of the six limbs of painting according to Yaśodhara. To bring likeness in his work was considered to be a great merit of the Mughal painter. Abul Fazl calls this as *mānindnigārī,* bringing resemblance', *Āyīn-i-Akbari,* 34. p. 133. This word also expresses the idea of *shabīh.*

An artist, in the terminology of the Mughal painters, is known as *musawwir, kārīgar,* etc. The master painter was known as *ustād* and his pupils *shāgird,* whom he trained in the art of painting and draughtsmanship. In the days of the Mughals the pupils were admitted by the master artist when they were children, after they had worshipped him with flowers, etc., and presented him with eatables. They began their lessons in drawing by practising circles and spirals on a wooden panel (*paṭṭī*) smeared with the bole (*multānī maṭṭī*). When they had thoroughly mastered these designs they began to practise in drawing lotus flowers, fish, peacocks, deer (Pl. X) and all sorts of decorative designs consisting of simple geometrical patterns and more complex floral scrolls and arabesques.

After thoroughly mastering these designs the master-painter allowed them to prepare tracings which they pounced on paper, then finishing the outline with brush and filling it with colours. It was in the end when they could wield their brush without break (*qalam mĕ ṭūt na paṛanā*), that they were allowed to draw their own composition. Even the present day Mughal artist has no respect for an amateur who is called *atāī,* or an artist who has not learnt the art methodically under an accomplished teacher. An accomplished painter is expected to wield his brush cleverly (*hāth yā cuṭakī baiṭhanā*), to hold the brush properly and to have individuality of conception (*hathauṭī*) and style. His composition (*bandish, tarah*)[3] is always original, and his outline always graceful and spirited (*paca ke qalam lagānā*). He has also to be mindful that his figures do not lack proportion and their likeness with the original models is always striking (*nāp-*

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[3] *Bandish,* 'composition'. To determine the style of the painting according to one's own conception. It is also called *tarah,* and the painters with original conception *tarrāh,* 'designers'. *Āyin.* 34 p. 133.

jokh-taul).[4] Whenever he detects any mistake in his composition he corrects it (*sābhālanā*),[5] and if any part of the outline becomes faint he redraws it (*jagānā*). Before commencing his work he sees by measurements that the main figure of his composition lies in centre (*madhya sādhanā*) and that the composition is well balanced. At times he is unable to make up his mind in what way to proceed (*kāma kā bhang na lagnā*), then with great steadiness of mind he finds his way out of the impasse. He is a man of accomplishment and training and hates untrained artists (*kam kārīgar*)[6]; he never works in a slipshod manner so that there never arises the necessity to go over his work a second time (*dohar-kammā*). He never allows the style of his work to degenerate into that of a commercial artist (*kŏhār*).[7] While working he takes great care to keep his brushes and colour pots absolutely clean. To ensure absolute cleanliness of the brushes separate water pots are kept to wash them so that colours do not stick to the quill or brushes. Separate brushes are used for each colour, because if only one brush is used for all the colours, shades foreign to the desired colour appear in the painting and spoil its effect. He also provides himself with a piece of paper (*kardharā*) on which he places his hand to avoid specks and dirt. After such meticulous care in every detail of sketching, colouring and finishing he produces a work which is called refined or *nastāliq,* in which there is no touch of weakness either of colour or lines. The Mughal painters worked hard to make their works as examples for others, as it was the beauty and high finish of their works which gained them the favour of their patrons. In the age of the Great Mughals mediocre and third grade painters were not in demand.

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[4] *Nāp-jokh-taul*. The correctness of proportion is essential for the realistic treatment of the objects.

[5] If the flow of line is arrested or if there is a break the painting is spoiled.

In *Rajaśekhara's Viddhaśālabhañjikā* (Atre's edition 1866, 36, f.) quoted by Commaraswamy in "The Technique and Theory of Indian Painting" *rekhā.......ekadhārā*, 'an outline unbroken in its flow' is praised.

6. Kan day's w*kārīgar*, 'unaccomlished artist'. If the artist has received little training or has limited imagnation which cannot go beyond a certain limit he is cal TheLibr ed *kamkārīgar*.

7. Kōhāri hā I, P. XX , 'clumsy style'. The simile has originated from that class of painter **Indian Pai** who paint doors, walls and pottery without the least degree of finenss. Th 10 (b) use red to paint flowers and the lampblack for outlining..

Akbar was the founder of the system of *kārkhānā* for painters but no record of this atelier is kept. It is possible, however, that the atelier was established in the later part of his reign. In the *Āyin-i-Akbarī,* written between 1596–1601, the description of *kārkhānā* or atelier shows that it must have been a well equipped and elaborately organised establishment. This establishment must have been organised on the same lines as those formerly existing in the capital cities of the Sulṭāns of Herat or Safavid Shāhs about which we will have to say something later.

We do not know anything about the organisation of this great body of painters or whether they followed the movements of the court or remained stationary at one place. There was, however, an atelier at Fatehpur Sikri, as is evident from a copy of *Gulistān* in the library of the Royal Asiatic Society which was completed by the copyist Husayn Kāshmīrī at Fatehpur in A. H. 990 (A.D. 1582), and the borders of the pages of which were decorated with a number of bird illustrations by Manohar. This must have been the atelier referred to by Father Anthony Monserrate,[8] who visited Fatehpur Sikri between 1580 and 1582. He tells us that Akbar had built an atelier (atrium) near place for the workrooms of the more honourable art, painting, gold-work. weaving, and the manufacture of

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[8] Anthony Monserrate, S. J., *Mongolicae Legationis* ed. by the Rev. Hosten, III. p. 643.

From what we know of the circumstances under which the painters worked in the atelier of the Safavid kings an idea of the working of Akbar's atelier may be formed. The warrant of appointment in which Shah 'Ismā'il, the Safavid king in 1522, appointed Bihzād director of library shows that the establishment of painters was attached to the library. By this warrant authority was given to Bihzād over the copyists, painters, gilders, margin-drawers, gold-mixers and gold-beaters.[9] It does not mention colour grinders who must have been employed. It is probable that highly polished paper was also manufactured in this establishment.

In this connection it should be remembered that the system of *kārkhāna* was not only a passing phase encouraged by the whim of Akbar who thought that in doing so he was giving an impetus to the art of painting as supposed by Mr. Percy Brown.[10] Bernier stands testimony to the fact that the *kārkhānās* existed during the reigns of Shāh Jahān and Aurangzīb though they had fallen on evil days, due to the apathy of the rulers. In the late eighteenth century *kārkhānās* were very popular and the nobles and the *rājās* alike employed a number of artists to prepare illustrated volumes of the *Rāmāyaṇa,* the *Mahābhārata,* the *Satsaī* of Bihārī and other books on Brjabhaṣā literature. The *Rāmāyaṇa* pictures of the Bhārat Kalābhavan and the Ramnagar State Library, the painted manuscript of the *Mahābhārata* in the Baroda State Library are the results of the collaboration between a good number of artists. Even to this day, though there is a paucity in the number of Mughal painters, and the art is gradually dying out the painters have kept up the memory of the *kārkhānā* alive. Even a single painter after he has finished the day's work asks his employer, 'Sir, the time is over ; should I close the *kārkhānā (kārkhānā baḍhānā),*' thus keeping alive the memory, though unconciously, of those days when painters worked in groups in *kārkhānās*.

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[9] TheLibrary of Chester Beatty : *A Catalogue of Indian Miniatures,* Vol. I, P. XXII.

[10] *Indian Painting under the Mughals,* p. III.

From whatever we know from the inscriptions on the pages of illusrtated MSS and traditional knowledge of a few artists of Mughal school the following details about the working of *kārkhānās* become evident. The work finished in a *kārkhānā* was known as *ghān kī taswīr.* This process was specially employed when a series of paintings were to be executed. Generally the composition *(tarah)* was done by an artist of established reputation, and the work of colouring, correct outlining and finishing was entrusted to his co-workers. This system facilitated the production of illustrated manuscripts and big albums, which, if entrusted to a single artist, could not be finished even within his life time.

The following is the method by which the work of painting was conducted in the *kārkhānās.* The painters assembled in a big hall under a head artist who entrusted each of them with the execution of that part of the picture with which he was well acquainted. Thus *chihrā nāmī,* 'the face of the august personage — the king', was entrusted to a competent artist who had the privilege to study his figure ; the head artist sketched the composition; a second applied the colours; a third finished the animals and the scenery ; and a fourth gave finishing touch to the picture. In this way the painting travelled from hand to hand till it was finished. Finally it was handed over to the *waslīgar,* decorators, gilders and pagers, in turn. The calligraphist wrote the inscription on a separate paper which was beautifully decorated with floral scrolls etc., and then fixed on the reverse of the painting. It was not necessary that the calligraphic panels should be by contemporary calligraphists. At this stage the painting was handed over to the binder who bound it in an album *(muraqqa)* along with other paintings.

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CHAPTER IX.

FAKED PICTURES.

It is a well known fact that the art treasures of India have suffered considerably from the hands of the vandals and natural causes. The greater part of paintings were either eaten away by insects or taken away by the plunderers of Delhi; only a small portion has remained stowed away either in the collection of private individuals or rajas who had shared the loot of Delhi.

When the demand for good Mughal examples increased, in the first instance, originals were parted by their owners at considerable sums, but soon a point was reached when demand outweighed the supply. The demand, however, grew, and the collection of Mughal paintings came to be looked as fashionable. The rich museums of America and Europe also recognised the artistic value of Mughal art and gave it a place in their collections. The result was that in the absence of originals the descendants of the Mughal painters began turning out fakes which they decorated with calligraphic panels, signed them in the name of famous painters of old, and sold them to enthusiastic but ignorant collectors. Such pictures, after the disbursement of the collection of individuals, have found their way in the museums and private collections both of Europe and India. They have been labelled by the collectors as originals, and even in the catalogues of these paintings prepared by competent hands, the old mistakes of the collectors have not been rectified, and even mediocre fakes bearing the faked signatures of such painters as Manohar, Farrukh Beg and Balchand have been recognised as originals. No pain has been taken to compare the style of these paintings with the recognised originals, which if done carefully, will at once reveal the difference between the originals and the fakes and thus vindicate the originals which the fakes could not even dream to approach in the matter of technical perfection. In this section I have selected some typical fakes and tried to show the salient features of these fakes and how they essentially differ from the originals.

Some of the most notable examples of the late 18th century fakes are contained in the album presented to South Kensington Museum by Mr. Wantage. Mr. C. Stanley Clarke, the cataloguer of these paintings, has accepted all the paintings in this album as genuine on the following basis: firstly, the personal seal of Emperor Jahāngīr appears on the mounts of the eighteen pictures; secondly, the paintings are signed by skilled artists such as Bishan Dās, Ālam, Bālchand, Daulat the Elder and Farrukh Beg who are known painters of Jahāngīr period (*Indian Drawings*, p. 1). At the outset these arguments seem to carry conviction as the appearance of royal seal and the signatures of the artists point to their genuineness; but unfortunately Mr. Clarke did not take the trouble to compare these paintings with the genuine examples which would have at once revealed to him differences between the styles of the originals and the fakes. A detailed examination of the paintings in the album has assured me that the following pictures are fakes passed in the names of the older artists.

Mirza Kāmrān meeting an envoy near Kābul, circa 1544, Pl. 1; Humayun's accession darbār at Agra in 1530, Pl. 2; Envoys bringing gifts to Humāyūn at Agra, by Ālam, Pl. 2; Humāyūn and Mirza Kāmrān hunting near Kābul, Pl. 3; An incident in the life of Khwāja Jahān, by Farrukh Beg, Pl. 4; Jahāngīr inspecting a golden image, Pl. 5, fig. 6; Nūrjahān entertaining Jahāngīr and Prince Khurram in 1617, Pl. 5, fig. 7; Akbar receiving two Mansabdārs in a palace garden, by Manohar, Pl. 6; the Mughal Emperor Shāh Jahān, Pl. 10; Indian fallow deer and Tibetan antelope, Pl. 12, fig. 17; A keeper (*Duriya*, leading a lion), by Padārath, Pl. 12, fig. 18; Portrait of Wazīr Khwāja Kalān Beg, by Ustād Mansūr, Pl. 17, fig. 25; Portrait of Ināyat Khān, by Daulat the Elder, Pl. 17, fig. 26; Shāh Tahmāsp in solitary meditation, by Sahefa 'Bānū, Pl. 18; A blind pilgrim procuring food in the precincts of the Dargāh Khwāja Sāhib at Ajmer, by Mīr Hāshim, Pl. 20.

The following examples are genuine: Jahāngīr receiving Qutbuddin Khan Kokā at Lahore, in 1605, by Manohar, Pl. 7; Jahāngīr leading a black buck, by Manohar, Pl. 8; the Mughal Emperor Shāh Jahān, by Bālchand, Pl. 9; An Amir of the court of Jahāngīr, by Bālchand, Pl. 11, fig. 11; Murtazā Khān (Shaikh Farīd Bukhārī), c. 1610, by Manohar, Pl. 11 fig. 12; Amīr Mirza Ghāzī 'Beg, by Manohar, Pl. 11, fig. 13; Mīr Jumla (Md. Amīn of Shahristan), by Shivadās; The *markhūr* or Himalayan wild goat, by Ināyat, circa 1607, Pl. 13; A pair of painted *sāras*, by Mansūr, Pl. 14, fig. 20; The Indian red wattled lapwing, by Mansūr, Pl. 14, fig. 21; The Himalayan blue-throated Barbet, by Mansūr, Pl. 15, fig. 22; Jahāngīr's turkey-cock, by Mansūr, Pl. 17, fig. 23; The Himalayan cheer pheasant, by Mansūr, Pl. 16; The Martyrdom of St. Cecilia, by Nini, Pl. 21.

The following are the characteristics of the faked paintings which are never found in the works of the older painters :—

As we have seen already in the paintings of Jahāngīr and Shāh Jahān's time, colours were applied in many thin coatings so as to impart the painting depth and an enamelling effect. The faked paintings sadly lack these qualities. To amend the defects of colour the painters have taken recourse to stippling, and there is not a single spot in the faked paintings of this album where extensive stippling has not been done. In this connection it is also remarkable that stippling is not done with the same colour but with the lamp-black, a practice which seems to have originated from the direct imitation of European steel engravings brought to Mughal court, and from which the Mughal painters must have drawn some technical inspiration.

In the representation of human figures the painters have been unable to draw correctly the hands and feet wth maniére grace as in older paintings. No attention has been paid to exact proportions in figure drawing. In a word, the drawings are faulty as the copyists were very weak in draughtsmanship.

In the delineation of landscape the same weakness of drawing is perceptible. Trees are sketched and finished badly ; undue use of shade and stippling is made in delineating the trunks and leaves. The floral designs are very weakly drawn with no attempt at delicacy. After drawing the patterns on the surface they are never outlined as in early paintings. The floral decorations on outer borders are also crudely done in gold with thick brush perhaps in direct imitation of European wall-paper. In early paintings, however, every pain is taken by the designer to paint the borders with floral pattern in various colours, which add beauty to the painting.

Now let us take a few typical examples of the original works of early painters, such as Bishandās and Manohar, and compare them with the fakes attributed to them, and the difference will be clear at once. Manohar, a painter of great strength and quality, belonged to the period of Jahāngīr. His works are distributed in many museums and private collections and are marked by the individual treatment of portraits, expression of vitality, and mastery of restrained outline. There is little or no stippling ; the evenness is obtained by the clever use of colours. All these qualities of Manohar's art are reflected in a processional scene at the court of Jahāngīr, reproduced in Mr. Percy Brown's *Mughal Painting under the Mughals,* Pl. XXI. If we compare this picture with Pl. 6 of Wantage bequest, depicting Akbar receiving to *mansabdārs* in a palace garden, the difference will be at once apparent. In the latter picture the figures are disproportionate ; drawing is very weak ; recourse to stippling is taken to hide the defects in colouring and the floral patterns on carpet, etc., are not outlined as in the genuine picture. At the very first sight a connoisseur of Mughal art would say that these are the works of two different artists. In the Wantage album, however, there are two genuine works of Manohar already mentioned which stand the test of genuineness after comparison with authentic examples of his works. If we compare "Jahāngīr receiving Qutbuddin Kokā at Lahore" in the Wantage album with "Jahāngīr drinking wine under a canopy" in the British Museum (*The Court Painters of the Grand Mughals*, Pl. 1), we will at once see the striking similarity. Striking resemblance of the figure of Jahāngīr in both paintings, the perfect mastery of outline and sensitiveness of drawing, and above all, the use of posture which is a little more than profile, an outstanding feature of Jahāngīr period, are apparent in both and leave no doubt in the minds of art critics that the painting from the Wantage album is genuine. Similarly the portrait of Murtaza Khān with Mongoloid features is also genuine and bears all the traits of Manohar's art.

One who is least acquainted with the works of Bishandās, a favourite of Jahāngīr, is simply astounded by the attribution of mediocre faked painting entitled "Amar Singh of Udaipur (Mewār) and his sons" in the Wantage album. His works are described and illustrated by Dr. Coomaraswamy in an article "Notes on Indian Painting. 4. Bishan Das and others." He was the greatest master of 'taking likeness'. He was deputed to the court of Shāh Abbās to paint the emperor and his officers which task he did with utmost satisfaction of the Emperor who amply rewarded him for that. His strong point was without doubt portraiture, but he could also blend in his work a sense of true proportion and expression of feeling. The wooden portraits of Amar Singh and his sons, the weak outline which has made the drawing of the figures weak and broken, excessive use of stippling and lack of outlining the floral patterns, and the use of rigid profile are certainly traits which are foreign to Bishan Dās' brush.

There are, however, paintings which are executed beautifully, and on that ground as well as on the basis of the subject matter they are assigned early date, but on careful examination they prove to be later versions of an older work. Thus on Pl. I, fig. 1 of *Indian Painting under the Mughals*, a picture representing young Akbar receiving the news of his father's fatal fall is represented, and the date assigned is 1556 A.D. On an examination this date is untenable. The figures are absolutely Rājpūt in type, a feature foreign to early Mughal painting but common in Shāh Jahān's period; even the landscape is Indian. The mountains are represented as raised mounds and not zig-zag as in early painting. It is therefore necessary to study and compare carefully the works pronounced to be early with known examples whose dates have been settled and then to form an opinion.

Certain accomplished copyists have, however, reproduced old works with such accuracy that it becomes sometimes difficult even for keen critics to pronounce them as copies. When such works come for inspection the critic should be very careful in examining them in detail and comparing them with the original examples. His efforts are sure to meet with success, as a copyist is after all a copyist, and however clever he may be there are certain points in the or'iginal which are beyond the reach of his brush, and once such points are detected the critic clearly sees the

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distinction between them. There is a copy of Persian portrait in Kalābhawan, Benares ; the copyist was so clever that in the delineation of the figure and tree he has reached very near the spirit of the original, but in delineating the clouds he has failed and is caught. There is another picture of an elephant with mahout in the same museum. It is a very fine example of a copy from the original. Even the best critics failed to pronounce their opinion ; but on a close study it was found out that the outline is not so strong, and when the paper on which the painting was done examined it proved to be ordinary mill made paper.

In the end I must strike a note of warning to the collectors of Mughal painting that they must be very careful in their selection. The original paintings are practically exhausted and the fakes are manufactured in Delhi. Agra, Lucknow, with a view to deceive the tourists and enthusiasts. They pay handsome prices for these trashes and when the fraud is detected their enthusiasm vanishes. The greatest collection of fakes which I have as yet seen is now in the possession of Benares Hindu University presented by Lala Shri Rama of Delhi. He was an enthusiastic but ignorant votary of Mughal art ; and taking advantage of this he was fleeced of a considerable sum by the fakers. The paintings of the collection are most miserable exambles of fakes and the University authorities should be better advised to consign them to boxes rather than display them in gorgeous setting.

In this connection I want to lay certain maxims which if followed will save many enthusiasts from being cheated. They are : Buy your painting from some reliable firm ; if you are not a critic take the help of those who know ; never trust bazar paintings displayed in curio shops of Delhi, Agra and Lucknow.

CHAPTER X.

HISTORICAL RETROSPECTIVE

In this section we purpose to give a short history of Mughal painting with outstanding features of the paintings of each period ; this, besides giving a history of the developement of technique, will also acquaint the readers of the salient features of the art which was a favourite form of artistic expression in India for more than three hundred years.

Before tracing the development of Mughal art it would not to be out of place here to say a few words about the state of pictoral art in India immediately preceding the Mughal conquest and the consequent origin of the Mughal school.

The school of painting which practically dominated the field before the advent of the Mughal school is named by various scholars as Śvetāmbara Jain school, Gujarāt school or Western Indian school, on the basis that practically all the documents relating to this school have been found in Gujrāt, and that the subject-matter of these paintings is mostly Jain. On a closer inquiry it has been found out that the paintings executed in the so-called Gujarat style are also found at places much farther from Gujarat. Examples may be quoted of the Ari frescoes from Pagan, Burma, and certain illustrated Buddhist palm leaf MSS in Tibetan monasteries, the photographs of which were broguht by Śrī Rahula Sankṛtyāyana from Tibet. A few pages of a romance in Avadhī, a dialect of Hindi, illustrated after this style about 1500 A.D., now in the Bhārat Kalā Bhawan, were certainly illustrated somewhere near Lucknow. On further research we are sure more documents of this nature could be found. The style of these paintings, which follows the decadent traditions of the frescoes of Ellura with angularities appearing in the treatment of human figures and an eye protruding in the empty space, also points out the origin of this class of painting not in Gujarāt but the Deccan. To be more explicit it is wrong to assign a school to certain class of paintings because by some chance most of the documents in that style are preserved in Gujrat and not elsewhere. But this only proves that Gujarat somehow or other managed to protect its works of art against the iconoclastic fury of the Muhammadans. In the matter of technique and conventions, however, the Indian artist followed the same traditions from one end of the country to the other, and the decaying traditions were followed in the same way as vigorous ones. It would be, therefore, better to call this period the school of late medieval Indian painting, which should cover the Buddhist palm-leaf paintings of Bengal as well as other paintings done in so-called Jain school executed roughly between 1000 to 1500 A.D.

The earliest example of the Jain style is to be found in the palmleaf MS of the *Niśītha Curṇi* in the Jain Bhaṇḍār at Patan, written in the A. D. 1100 in the reign of Siddharāja Jaysiṁha. The first period of palm-leaf MSS lasted from A. D. 1100 to 1400, and from this period have come to us the illustrated MSS of the *Aṅgasūtra, Triṣaṣti-śalākā-puruṣa Carita, Śrī Nemī-nātha Carita, Śravaka-pratikramaṇa Curṇi,* etc. In the second period lasting from 1400 to 1500 the illustrated MSS of *Kalpasūtra* and *Kāla Kāchārya kathā* and *Siddha Haima* were painted.

With the introduction of paper for writing and painting the new era illustrated Jain MSS came into being. Innumerable copies of the *Kalpasūtra* and *Kālakācārya Kathā* were produced in the 15th and 16 centuries. Besides these Jain MSS illustrated MSS on Hindu erotics as *Vasanta Vilāsa* and *Rati-rahasya,* also a few copies of *Bālagopālastuti* and *Durgā-saptaśati* were produced.

In these manuscripts drawings are in oblong panels. The outline is picked in red, and the colours employed are gold, yellow, black, white, red, blue, green and pink. In draughtsmanship no attempt is made at rounding the line; angularity prevails everywhere, and the convention of representing an eye protruding in empty space is followed.

The Mughal conquest changed the political aspect of India. The feudal states were curbed, and the power was centralised in the person of the Mughal emperor. The court of the Mughals with its officers. both civil and military, Rājpūt rajas either in the service of the Mughals or attending the court to pay their respect, Amīrs and Khāns from Turkestan and Afgānistān, and numerous ambassadors from Persia and Europe seeking alliance or trying to negotiate business concessions, filled the capital. This variegated crowd whose members vied with one another in the display of pomp and show imparted undreamt of splendour to the court, and to the imperial city of Delhi which became a great centre of art, learning and also luxury.

Once the power of the Mughals was established a fusion of culture of the conqueror and the conquered began to take place. The increased contact with the Rājpūts who were the custodians of Indian culture in that period, and the matrimonial alliances with Rājpūta ladies introduced an Indian element in Mughal court which is not only apparent in dresses and ornaments but also in the domain of art and architecture, a fact demonstrated in the paintings and monuments of that period.

It is well known that the first illustrated work of Mughal painting was Hamzah Namah, or 'The Exploits of Hamzah' an uncle of the Prophet Muhammad, who fought in the cause of Islam. The work was executed at Kashmir, and consisted of more than a thousand folios on canvas and was entrusted to Mīr Sayyid Alī of Tabriz, under whom must have worked a number of Indian painters. The work was completed in the early years of the reign of Akbar under the superintendence of Abd-us-Samad.

It is remarkable in this connection that the sameness of style has been maintained through *Hamzah Nāmah*. The style of paintings has been designated as fundamentally Persian, and Starley Clarke opined (*Twelve Mughal paintings of the School of Humayun*, p. 2) that the work was done by a small coterie of Persian and Qālmuk artists. But a brief examination of the paintings will reveal the fact that though imbibing the best traditions of Persian art the paintings reveal certain traits which are purely Indian, and it would not be an exaggeration to say that though the composition was supervised and perhaps outlined by the Persian masters the work of finishing and decoration, etc., was left in the hands of the Indian artists who freely introduced Indian conventions in their work. The Persian elements such as delicate leaves, flowering trees and shrubs, three quarter view of the figure, rich patterns of carpets and beautiful tiled pavilions are freely introduced. But it must be said to the credit of the Indian painters that they were not merely the imitators of Herāt School; they had their own traditions and view point of art, which find expression in these paintings. In this connection it is worthy to mention a tradition current in the Mughal painters of the nineteenth century, who were absolutely ignorant of the school of Herāt or Kashmīr, that the artists of Herāt had no sense of proportion in the delineation of the human figures; the Kashmīris borrowed all their best traditions while adding the sense of proportion. It cannot be said that the early Mughal painters including those from Kashmīr were perfectly at ease with the canons of proportion in the early days of Mughal art as the time was yet too early for that, but considering the doll-like representation of the figures in Persian art of that period, early Mughal painters had better sense of proportion. It is, however, in certain other respects that Indian influence is quite palpable. In the picture entitled 'Miraculous events following the birth of prophet Muhammad' there are Indian elements whose knowledge was difficult to be acquired by a foreign artist however clever he might have been. To know these things intimately one should have been well versed in indigenous school of painting which flourished in Kashmīr since a long time. In this picture the images at Kaba are represented to have fallen, the sacred fire of Zorastrians extinguished, and the priests are flying pell-mell. It is remarkable that for the representation of the images framed canvas paintings have been used depicting the Buddhist figures drawn with the full knowledge of *mudrās,* a thing which was absolutely out of the reach of the Muslim painters. Secondly, the Zorastrian priests are repesented as Brāhmaṇa priests clad in the *dhotī* and *dupaṭṭas* and they wear *rudrākṣa necklaces* and sacred threads. The whole painting breathes of Indian influence except the architecture and rich patterns borrowed from Persia.

Another aspect of these paintings which may be said to be essentially an Indian contribution is the expression of emotional force which characterises certain scenes. The heavy and uncanny force associated with giants, the sense of wonder and amazement of the crowds witnessing awe-inspring scenes, etc., are nearer in spirit to Indian art traditions of bygone days than the Persian tradition of Bihzād and others who aimed at more towards the perfection of technique and delicacy of outline than the expression of emotional reactions.

The point need not be emphasised here that Akbar was the real founder of the Mughal school of painting. A *karkhana* or atelier was opened where painters and decorators were employed for the illustration of the manuscripts and no pain was spared by the emperor in giving constant supervision and encouragement to bring the art of painting to a higher level. In the first half of his reign illutrated MSS of the *Hamzah Nāmah, Bābur Nāmah* (British Museum), and *Timur Nāmah* (Oriental Library, Bankipur), were produced ; while in the second half of his reign illustrated copies of *Razm Nāmah* (Jaipur State), *Anwara-i-Suhaili*

(School of Oriental Studies), *Shāh Nāmah* (Stadt Bibliothek, Munich), *Bābur Nāmah* (Victoria and Albert Meuseum), *Laila wa Majnun* (India Office Library), *Bahāhistān-i-Jāmaī* (Bodelian Library, Oxford), *Khamsāh-i-Nizāmī* (Dyson Perrins Collection), *Bābur Nāmah* (Stchoukine Collection, Moscow) were prepared, in the final part of his reign *Akbar Nāmah* (Victoria and Albert Museum, South Keningston) and *Anwār-i-Suhaili* (British Museum) were executed. Besides these MSS another copy of *Akbar Nāmah* in Chester Beatty Collection, a part of *Tārīkh-i-Alfi* in possession of Mr. Ajit Ghosh, and an illustrated version of *Dīwān Hāfiz* are also known. A number of stray folios of *Shāh Nāmah, Razm Nāmah, Tūtī Nāmah*, etc., which must have once formed part of the illustrated manuscripts prepared for the higher dignitaries of the State, some of whom had their own painters, are also found and are disbursed in various museums and private collections.

In the matter of colouring the painters of Akbar period showed great preference for bright colours, the liking for which they got from their brother painters of Persia. Thus bright blue, especially ultramarine, was profusely used; indigo, verdigris, cinnabar and peori were also favourite colours. In this period the painters did not try to blend one colour with the other as in later times, but accentuated the outline dividing different colours by the deeper shade of the same colour.

In the representation of landscape trees are represented with sraight trunks; the leaves and branches are painted on the indigo background or in Persian fashion with undulating trunks. Flowers and leaves are sometimes treated decoratively as in Persian painting, but very often realistically. The banyan, mango and plantain trees are treated after Indian style. The reason for this may be that these being the indigenous trees of the country the painters could represent them with greater sympathy. Mountains are, however, treated in Persian manner with bare or flowering trees standing here and there, and rivulets flowing through the landscape. The clouds are generally painted on blue ground.

The faces of the human figures represented in the paintings of this period are either in three-quarter view or in profile. It is however, in the treatment of women that the painters have borrowed Indian traditions. This might have been due to the unfavourable reaction of the Mughal painters towards the convention of the Persian painters who failed to distinguish between the facial characteristic of male and female figure. On the other hand the charm of Indian women with their lovely costume must have appealed to them strongly, and hence whenever women are represented in profile or three-quarter view; the treatment of their eyes is like *paṭola*—a trait borrowed from Jain paintings.

Another remarkable feature of early Mughal painting is lack of proportion in the delineation of human figures. As we have observed elsewhere the Mughal painter had a definite proportion by which he drew human figures, and the unproportionate figures were called *badkainṛā*. In the early period, however, influenced by which he drew human figures, and the unproportionate figures it must be admitted that many features of Persian school, such as round heads, etc., were discarded and the Indian conventions adopted in their place. Big eyes, straight nose, thin lips, narrow waist, well developed breasts and buttocks in the treatment of women conform to Indian traditions. Buildings are represented pink coloured, with decorations which are not prominent. The floors are represented covered with carpets and the niches are decorated or painted with Chinese porcelain, wine bottles, etc.

"The period of Jahāngīr the aesthete is marked with a feverish activity in the field of painting, as the emperor himself was a great patron of artists. Increased intercourse with the European

State Museum,
LUCKNOW.

travellers, ambassadors and missonaries, who brought European paintings with them produced some Western influence on the Mughal school. The preference for book illustration went out of fashion, and the painting representing episodes from the life of the emperor, hunts, processions, *darbārs,* portraits of the nobles, saints, etc., became fashionable. A very refreshing feature of the art of Jahāngir's time was the study of birds, beasts and flowers, which appealed to the aestheic sense of Jahāngir. His memoirs are bristling with references to birds and beasts whose habits he very closely observed. The greatest painter of animals, birds and flowers was Ustad Mansur, who was given the title of Nadir-ul-Asr.

The art of portrait painting achieved a degree of proficiency both as regards technique and high finish. Portraits of the emperor, members of the royal family, court officials, etc., were turned out in large members, and no pain was spared to imbue them with the individual characters they portrayed.

In the representation of the human figures greater attention is paid to proportion. As we have already seen the painters of the school of Akbar, who drew much of their inspiration from the school of Herāt, were not so much adept in the science of proportion. This trait persisted even in the early painting of Jahāngīr period, but later on as the influence of indigenous Hindu art increased more attention was paid to proportion in the representation of figures. The classic Mughal ideal of proportion, however, emerged in the time of Shāh Jahān, and has been followed by the Mughal painters since then.

The quarter view of Akbar school persists, but figures in profile, in portraiture, become a common feature. It must be carefully marked that profile in the paintings of Jahāngīr period is somewhat more than profile. In strict profile only one side of the face is represented, but in the Jahāngīr school of painting in profile a little part of the farther eyebrow and temple as well are delineated.

Landscape is sometimes decorative in the Persian sense. The undulating mountain and knotty trees appear. But in the paintings of the later part of Jahāngīr's reign the tree trunks are treated more realistically, and the foliage is treated in such realistic manner that they suggest European influence. The water is treated plain, but the addition of lotus flowers suggests Indian influence.

The colour scheme definitely improves; blending of colours becomes a common feature; the drawing is careful and full of sensitiveness.

On the death of Jahāngīr, Shāh Jahān succeeded to the throne. As a prince he was interested in paintings as is evident from a remark of Sir Thomas Roe who recorded that when he presented him with a watch he accepted it but preferred to have some paintings which Sir Thomas Roe had shown to Jahāngīr. His patronage, however, was not wholly confined to the art of painting. He was more interested in architecture; nevertheless the art of painting flourished.

In Shāh Jahān's time the art of portraiture had reached its climax. Thousands of portraits of the members of royal family, nobles, and favourites were turned out. Great preference was shown to portraits in which richly dressed nobles equipped with lances and bucklers and swords, or simply holding flowers or jewelled plaques, etc., stand in stiff attitude. This stiffness which might have been due to the strict court manners of the Mughals did not allow officers to be at ease or smiling. They had to behave themselves according to the strict court manners, and this is reflected in their portraits. Highly finished paintings of Shāh Jahān's *darbār* is another feature of the period. Here the painter was afforded ample opportunity to give vent to his talents. Every detail, from carpets to architectural designs, was carefully worked out, and every care was taken to finish the portraits of the officers standing in stiff prescribed attitude of the court. The pictures of women dressed sumptuously enjoying music or drinks became also distinguished features of the art in Sahāh Jahān period.

Another kind of painting which found favour with the painters of Shāh Jahān period depicts saints attended by princes, and religious ecstasy of the dervishes. The depiction of hunting at night was also another feature of the pictorial art of this period.

The texture of the colours applied in thin coatings attains the fineness of enamel, but it is never so brilliant as in Akbar's time. The great purity of colours in this period considerably softened and mellowed down their brilliancy. The fineness of the colours excludes stippling to a very great extent. The effect of evenness is obtained by blending the colours.

By constant practice the draughtsmanship in Shāh Jahān school of painting becomes very sensitive. The lines are not allowed to flow freely but are studied, and above all priority is given to the expression of grace and delicacy. The lines at times are so fine that it would require some times a magnifying glass to distinguish the delicate strokes.

A distinguishing characteristic of the paintings of this period is *ekbāl pardāz,,* 'distinguishing each hair separately.' The separte strands of hair are executed with such a fine brush that one marvels at the wonderful command of brush by the painters.

The decorative motifs used in the buildings, carpets, etc., are floral scrolls, arabesque, and the sprays and springs of the same patterns are used in the pietra dura decoration in the contemporary buildings. Colour harmony and balance are distinguishing features of such decoration.

In the treatment of human body the school of Shāh Jahān follows a definite system of proportion which is 8½ to 9 spans. This tradition is still followed by the modern painters of the Mughal school. The Mongoloid ethnic type goes out of existence and the figures are perfectly Indian in form with aquiline nose, fish-shaped eyes, broad shoulders and chest. The portraits are mostly in profile; the *mudrās* or gestures of hands, a distinguishing features of old Indian art, did not play any important part in the early days of the Mugal painting. With the greater acquaintance of the artistic traditions of India the *mudrās* began to play an important part in the period of Shāh Jahān. *Kaṭakā hasta, Añjali,* etc., have been used in portraits gracefully holding swords, flowers or jewelled ornaments, etc.

The accession of Aurangzib marks a downward course in the history of Mughal painting. He was an orthodox Muslim whose every action of life was governed by the strict tenets of Islam which condemned the art of painting. Aurangzib abided by that dictum. Indeed hard times had descended on art. This process of degeneration had already set in during the closing years of Shāh Jahān's reign. According to Bernier the condition of the artits bereft of the royal patronge was deplorable. They had to sell their goods as bazar articles and had to content themselves with the little price they got. *Umrahs* made the artists work on starvation wages. Surely such conditions could never be congenial to the development of art. The style degenerated and highly finished paintings became rarer, though the Mughal school dragged on its existence by the sheer momentum of the force it had received during the previous reign.

The art of painting seems to have received fresh stimulus during the reign of Farrukhsiyar who ascended the throne in 1713, and many examples of this period may be seen in private and public collections, some of which are highly finished and must have been the works of the artists attached to the court. Harem scenes, portraits of the King and his nobles were produced in good number. The colours are not so refined, and to hide their defects increased use of stippling was made.

Muhammad Shāh (1717-1748) also patronised painting as well as music, and the art dragged on its precarious existence. The story of the decadence of Mughal art however, continues during the long reign of the puppet king Shāh Ālam, which, as the irony of fate would have it, from the point of view of sheer numbers rivalled any period in Mughal art.

A brief survey of the Mughal painting from 1780 onwards will reveal to us the following characteristics. In the matters of drawing, colouring, delineation of land-scape, etc., there is an all-round deterioration. The out-line is feeble, it has neither the swerve and pristine vigour of Akbar school, nor the restrained dignity of Shāh Jahān's school. Break in line appears, and no effort, howsoever great, is of any avail to hide its ugliness. The coarse nature of the colours used made it imperative for the painters to indulge in the increased use of stippling to cover the defects of the colours.

In the representation of landscape and persepctive European influence is more conspicuous. The representations of harem life, drinking scenes, love making and the dancing and music parties, is a special feature of the paintings of this period. Portraits of women were produced in large numbers and are the forerunner of those paitings which even to this day are sold in the markets of Delhi and Agra labelled as the portraits of Nūrjahān and Jahānārā, etc.

In the Deccan the art of miniature painting found favour with the kings of Bījāpur and Golconda as early as the beginning of the Mughal school of painting in the north, and the early Deccani school seems to have been idependent of the Mughal influence. It is said that it derived its inspiration from South Persia and Turkey, which seems probable in view of the fact that Yūsuf, Ādil Shāh, the founder of the Kingdom of Bijapur, claimed descent from the royal house of Turkey. In the seventeenth century, however, due to increased intercourse with the Mughals, Deccani painting was greatly influenced by the Mughal school of

Delhi, though still maintaining some of its early characteristics such as preference for monochrome back-ground with no attempt to differentiate planes, use of bright colours etc. With the disappearance of the kingdom of Bijāpur and Golconda by the end of the seventeenth century this school came to an end. In 1724 Asaf Jah laid the foundation of the Kingdom of Hyderabad. During his reign and the reigns of his successors the art of miniature painting flourished greatly influenced by the Mughal school and also by the Rājpūt school. The subject matter was mainly confined to the production of Rāgamālās and innumerable portraits of women, illustrated manuscripts of *Shāh Nāmah, Hātim Tai, Ayyaryardānish,* numerous stories in Deccani Urdu, portraits of kings, etc.

The Peshwas had their own painters at Poona. The palaces at Poona and Nasik were decorated with frescoes. The portraits of the Peshwas and their officers were also produced a number of examples of which may be seen in the Prince of Wales Museum. In style the Maratha school does not differ much from the school of Hyderabad, though in frescoes the style is greatly influenceed by Rajput school. The Rajas of Satara had their own painters ; a number of examples by them may be seen in the Prince of Wales Museum.

The art of painting also found favour and patronge from many Chiefs and Rajas. When the Mughal Empire was going to pieces the centre of activity passed from Delhi to the provincial capitals which had gained independence in the turmoil, Lucknow, Murshidabad, Patna and Hyderabad about which we have already spoken, became cities of great importance, and the artists who had migrated there found protection and patronage under the provincial rulers. It should not be understood, however, that the art of these provincial capitals differ very much from the parent art of Delhi. Though the local school of Hyderabad had certain features not found in Delhi school, it was the continuation of the same style, and the degeneracy of Delhi court is reflected in the Hyderabad painting. The colours are crude ; little effort is made in representing minute floral designs on buildings, carpets and costume.

In this period Patna also became an art centre and innumerable portraits. drawings of birds and beasts, based on European models were turned out. Illustrated MSS of the Rāmāyaṇa Mahābhārata, etc., were also produced by Hindu artists.

In those days pictures depiciting social and religious life of the people were much in demand specially by the Europeans, and to satisfy this demand Lucknow, Patna and Benares produced pictures representing social, religious and professional life of the people, known techinically as *fiṛkā* (profession). In these pictures one can see the life of the nineteenth century India depicted in every detail. Religious festivals and rites, *nautch* parties, wandering mendicants, bazar and school scenes and village scenes were depicted with accuracy and minute observation. Though from the point of view of art they cannot command much respect they are faithful records of the contemporary manners and practices.

The materials used for these paintings were paper of European manufacture, mica sheets on which paintings were done with the help of adhesives, canvas on which scenes or portraits were painted in oil colours, the technique of which was learnt from Europeans, and also sheets of glass on which paintings in oil colours were done.

Alongside this sort of decadance there flourished the lovely school of Kāngra, which, though imbibing the technique of the Mughal school, is inspired by the deep emotional fervour of Vaisnavism. In the matter of colouring, sympathetic treatment of landscape and animals, and the lyrical quality of draughtsmanship, this school kept the banner of Indian art flying for more than a century. Its contemporary, the Jaipur school, however, was more in the line of decadent Mughal school. Paintings from Tonk State, Udaipur, Jodhpur, Bundi and Kishengarh in Rajputana and Datia in Bundelkhand in this period are also known.

Thus for more than three hundred and fifty years the Mughal school of painting flourished and though there are stylistic differences between the style of one period and another, and also peculiar conventions make their appearance in the school termed Rajput comprising Rajputana, Bundelkhand and Kangra, etc., due to the aesthetic conception and adherence to older traditions, there is no denying the fact that in the matter of technique all schools in India followed the Mughal school. It should always be remembered that the technique of miniature painting which we now denominate as Mughal school, Rajput school, etc., is based on the technique of the Persian painters, who in conjunction with their Indian collaborators, laid the foundation of Mughal School. With the passing away of the Mughal power, the Mughal school of painting has also disappeared, leaving a few artists who lived their precarious existence by producing copies of paintings with occasional sensitiveness.

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Chauphuliā, four–petalled flower, 19; four–petalled flower in decorative patterns, X.

Chchhurita, whitewashing, 32, fn. 15.

Chha

Chhabi, portrait, X; picture, 73.

Chhāyāgata, profile, 57, fn. 6.

Chhiṛkāo, sprinkling, 72.

Chhī̃ṭa likhanā, drawing floral patterns, 68.

Ja Za

Jagānā, to redraw faint lines, 75.

Jaṅgalā, interlaced flowers and creepers, 70.

Jadval, bow–pen, 37, 66; –ārāyān, line drawer, ib.

Jamoga, patterns drawn at fixed intervals, 67.

Jawāb, balance, 67.

Jālī–chhavā̃s, screen with hexagonal pattern, IX; –aṭhavā̃s, screen with octagonal pattern, IX; –ḍairū chhavā̃s ḍamarū, drum shaped pattern in the screen, IX.

Juhān, appropriate design, 67.

Jõkī, interlaced meander, 69.

Jot, halo, 47.

Zangāl, verdigris, 19, 29.

Zamīn āsman, 50; –bā̃dhanā, preparing the ground for painting, 40; background, 42.

Zaharī, orpiment mixed with indigo, 29.

Jha

Jharokhā, balcony, 12.

Jhīnā uḍhānā, painting transparent garments, 47.

Ṭa

Ṭāt, jute for making paper, 7, 9.

Ṭipāī, distinguishing the details, 40; –sachchī, final sketching, ib.

Ḍa

Ḍorī daṇḍā, looped knot, 67.

Ta

Tājgikār, freshness in work, 38, fn. 2.
Tamsālārāī, to draw a picture, 73, fn. 1.
Tarah, style, 74.
Tarsukh, 'dry–wet' colour, 42.
Taswīr, picture; –kharī, in standing position, 73; –paṛī, in horizontal position, ib.; –ārai, to draw a painting, 73, fn. 1.
Tahrīr,, final outlining, 45.
Tipatiā, three-petalled flower, 68.
Turañj, a floral motif, 70,
Tūlikā, VIII; brush, 35.
Trapusha, tin, 32, fn. 14.

Da

Daṇḍī, brush handle, 36.
Daṇḍā murrī, a design, 70.
Dussa–paṭa, cloth for painting, 10.
Dūrdikhāna, showing the distance, 51.
Doharkammā, double work, 75.
Daulatābādī, paper manufactured at Daulatābād, 8.

Dha

Dhau–gōd, the gum of Anogeiss Latifolia, 19, 33.

Na

Naqshā, plan of a building, 65; paṛā–, ground plan, ib.; phẽṭ kā– horizontal section, ib.; khaṛā–, vertical section, ib.; chīrkā–, cross section, ib.; ādhā–, half plan, ib.; –likh ke duhrā karanā, preparing one half of the plan and tracing the other, ib.; –likhanā, to draw up plan, ib. fn. 10; –jamānā, to sec whether the design is correct, ib; –sodhanā, to amend the design, ib.; –sudhāranā, to change the design, ib.
Naqqāsh, decorator, 66.
Naqqāshī, pattern, 66.
Naqsh–i–nighāshtī, art of decoration, 66, fn. 16.
Nag–jawāhar, lozenge and circle, X; 69.
Nazdik dikhānā, objects at close quarter, 51.
Namūnā, original version, 39.
Navishtah, painted by, 47.
Nashtālīq, fine work, 78.
Nāraṅgī, orange, 29.
Nizāmashāhī, paper manufactured at Nizāmābad, 8.
Nimna, depression, 51, fn. 6.
Nimnonnata, relievo, 51, fn. 6.
Nīchāũchā dikhānā, light and shade, 51.
Nukhayyar, watered paper, 8.
Nestar, ruler, 65.

Pa

Pañjak, palmate, 69.

Paṭa, cloth for painting, 10, 11, 731.
Paṭṭī, bands, 65; wooden panel, 74.
Pardāz, stippling or shading, 45; khat–, shading with minute lines, 46; dānā–, shading with dots, ib. ; ghūhā–, close stippling with lines or dots, ib. ; dhū̃vādhār–, very close stippling, ib. ; jālīdār–, shading with crossed lines, ib. ; gudāz–, shading which melts, ib.; ekbāl–, each strand of hair shown separately, ib.
Parabhāga, background, VIII.
Parkār, compass, 65.
Paryanta–rekhā, border line, 66, in. 15.
Pārśvāgata, profile, 57, fn. 6.
Pichhvaī, tapestry curtain, 11.
Peoṛī, 27, 28, 33, 40, 42; a deep yellow obtained from cow's urine.
Pushpa–yashṭi, flower stick pattern, X.
Pṛshṭhāgatam, back view, 57, fn. 5
Pechak, spiral, 70.
Pol dikhanā, modelling, 50.
Pratikṛiti, portrait, VIII.
Pramāṇa, proportion, 63, fn. 9.
Pronnata, prominence, 51, fn. 6.

Pha, Fa

Phalaka, wooden panel for painting, 10.
Fākhtaī, grey, 29.
Firqa, pictures of profession, 99.
Phullā, rosette painted on ceiling, 70.
Phūl–chharī, flower stick pattern, X.

Ba

Bandish, composition, 74.
Bagal dūr sāmnā, side and front views, 51.
Bāt, size, 71.
But bā̃dhanā, rapid sketching, 38, 40.
Baradmutān, meander, 68.
Bādrūn, diaper, 70.
Bā̃s, bamboo paper, 9.
Būṭā, big decorative flower, 67, 68
Būṭī, small decorative flower, 67
Bel, floral scroll, 68; –dohri, 68, 69; –gajrekī, garland pattern, 69.
Bãiganī, purple, 29.

Bha

Bhādehar, gaudy colours, 44.
Bhāvagamya–sādṛiśya, mental impression of likeness, VIII.
Bhitti, wall for painting, 10.
Bhittika, profile, 57, fn. 6.
Bhittichitra, wall painting, VIII,
Bhītar–bāhar–dikhānā, showing inner and outer parts of a building, 51.
Bhūmibandhana, preparing the ground for painting, 40, fn. 11.

Ma

Mazhibbān, gilders, 71, fn. 47.
Malkān, poise, 63.
Mahājāl, paper made from old fishing nets, 9.
Mahīnkārī, painting minute details, 47.

Mānindanigārī, realism, 73, fn. 2.

Mīnākārī, enamelling, 72.

Mudrā, gesture, 64.

Munabbat, raised pattern, 72.

Musawwir, artist, VII, 73, 74.

Moṭrā, cotton wool attached to a handle serving as brush, 37, 47.

Motī–mahāvar, painting pearls and applying dye to the figures, 47.

Mormurak, graceful poise, 63.

Mohrā, burnisher, 38.

Mohāril, burnisher, 38.

Ra

Rang, colour, 18; –baiṭhānā, setting of the colours, 41; –dhonā, washing of, 18; –ḍūbanā, the colour losing its effect, 44; rōghaṭ–, dirty colour, ib.; khilāf–, transparent colours, 44; butī–, dull colours, 44; bad raṅg kar ke lagānā, mellowing the tonal value of colour, ib.; –gholanā, dissolving the colours, 42; –mathanā, mixing with fingers, ib.; –kā māvā, finest colour, 42; –gīranā, to squeeze colour in the palette, ib.; –jyādā gōd, colour with more than required quantity of gum, 34; –kam gōd, colour with lesser quantity of gum than required, ib.; –pauṭānā, to apply colours, 43; –bā̃ṭake lagāna, changing the shade of a colour by adding another colour, ib.; –ghulānā, blending, 43; uḍhānā, superimposition of colour coating, ib.; uthālenā, removal of colour, ib.; shokh–, dazzling colours, 44; chuha– chuhātā–, effect of freshness in colours, ib.; chaṭak–, deep colour, ib.; –kā subhāva, the nature of a colour, ib.; –basanā, mellowing of the colour due to age, 45.

Rangāmezī, colouring, 41.

Rajata, silver powder, 32, fn. 13.

Rañjana, to apply colours, 41, fn 14.

Rañjita, coloured, 10.

Rājavarta, lapis lazuli, 25, fn. 7; 26.

Rāmraj, yellow ochre, 28.

Rekhākarma, outline, 4, fn. 13.

Rekhāmayī–mūrti, outline drawing, VIII,

Rechālagāna, application of colour tc remove the cut shade.

L

Later, rhizome, 68.

Latāyaṭṭhi, flower–stick motif, 70, fn. 41.

Lākṣhā lac, 23.

Lākh, lac–dye, 23.

Lā̃nchhita, drawn upon, 10; mark-ink, 40, fn. 8.

Lāzwardī, ultramarine, 24, 25, 26.

Likṭī, sepia, used for drawing outline, 16; a mixture of lamp black to carmine and peoṛī, 40, 44, 45.

Likhanā, to draw, to paint, X; 73

Likhitam, painted by, 47.

Likhāī, kimkhāb kī, design based

on the patterns of brocade, 72; gulchharre ki–, floral pattern in gold and colours, ib.

Leī, book binder's paste, 33.

Lekhanī, brush, VIII, 35.

Lekhya, drawing, 41, fn. 13; –putrikā, painted female figure, VIII.

Lepya– chitra, plaster casts, VIII.

Va, Wa

Vaṛṇa–saṃkara, mixing the colour, 43, fn. 16.

Varṇa–vartikā, coloured pencil, 35.

Vartanā, shading, 45, fn. 19; –patra, shading with close parallel lines, 46, fn. 20; vindu–, shading with dots, 46, fn. 21; hairika–, shading with hatched lines, 46, fn. 23.

Vartikā, coloured pencil, VIII; crayon, 35.

Waṣlī, paste board, 16; –gar maker of pasteboard, 17; –ḍabkā paṛnā, appearance of bubbles in the paste board, 17.

Waslīgar, 47, 66.

Vainika, perhaps meander, 58.

Śa

Shafaq, gold leaf decoration, 71.

Shangarf, vermilion, 22.

Shab'h, portrait, X, 39; 73; –lagānā, taking portrait, ib.; –laggai, finishing of portraiture, 40.

Shāgird, disciple, 73.

Shikārgāh, hunting scene, 71.

Śyāma, shading, 50, fn. 4.

S

Sang–i–ṣarāhat, soap stone, 20.

Sakarpārā, lozenge, X.

Safedā, zinc white, 11, 19, 20.

San, flax for making paper, 7, 2.

Samānata, front view, 57.

Sarhadbandī, demarcating the range of a particular colour in painting, 43.

Sarekha–vapu, fine sketch, VIII.

Sares, the size, 33.

Sahresā, half egg design, 69; ultā–, the design faces upwards, ib.; dohrā–, the same design going up and down, ib.

Sādṛiśya, likeness, 73, fn. 2.

Sāre–revan, gamboge.

Sāyā, shading, 50; –gaharā karanā, deepening the shade, 50.

S̃ighāṛā, triangles, 69.

Sindūra, orange lead, 21.

Siyāh qalam, line drawing, 41.

Siyāhī, lamp-black, 21.

Silāṭ, architect, IX.

Suīkāri, imparting the effect of embroidered pattern by stumping with a knob, 47.

Sudhākarma, finishing off the ground with lime, VIII.

Sūtradhāra, master mason, IX.

Sevar, light and unpleasing colours, 43.

Sehrā, fish scale pattern, 69.

Sonā, gold, 30; –ḥalkārī, gold powder, 30; –halkarnā, making gold powder, 30.

Sonzard, golden yellow, 29.

Sosanī, mixture of indigo and carmine, 29.

Sphuṭ, to outline, 45.

Ha

Haṛtāl, orpiment, 28, 29.

Harābhāṭā, a king of silicate of ferrous oxide, 28.

Harīrī, silk paper, 8.

Hāṣhiyā, border, 66.

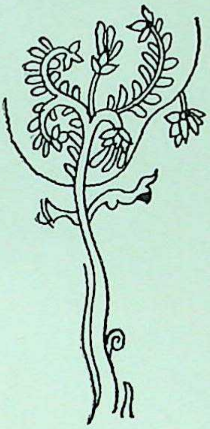
Hiṅgula, vermilion, 22.

Hinḍī, Indian paper, 8.

Hiraujī, Indian red, 21, 21.

Hurmuzī, Indian red, 21.

Plate. I.



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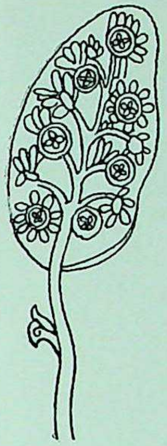

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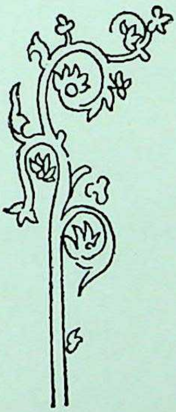

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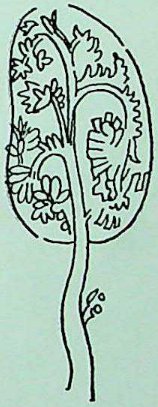

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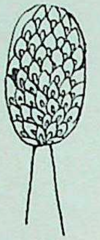
Figs. 1—4. Decorative treatment of trees in Western Indian Painting.

Plate. II.



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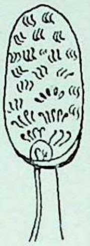

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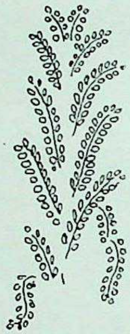

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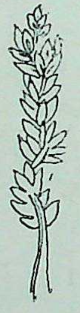

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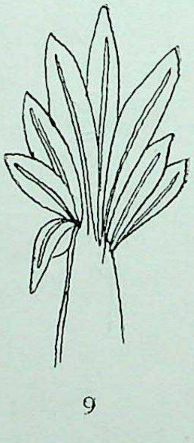

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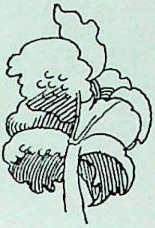
Figs. 5—9. Decorative treatment of trees in early Rajasthani Painting.



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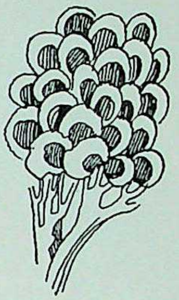

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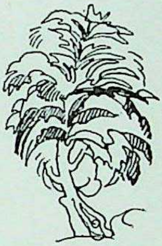

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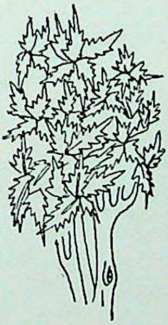

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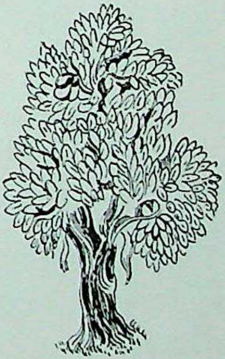

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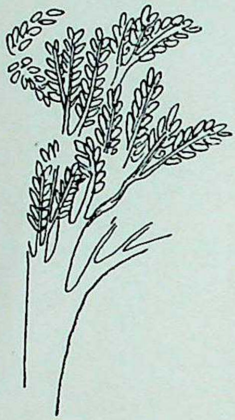
Figs. 10—14. Realistic treatment of Trees in Mughal Painting.

Plate. IV.



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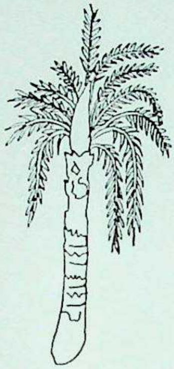

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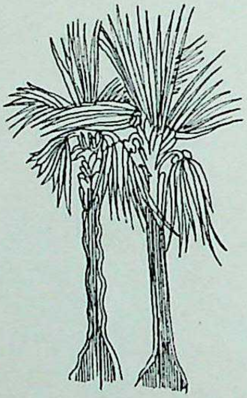

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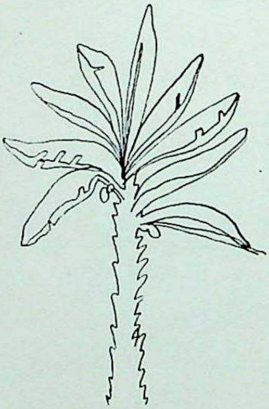

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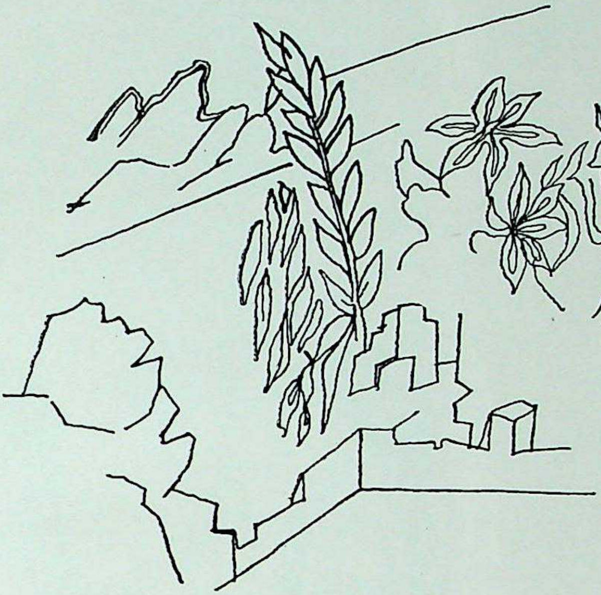
Figs. 15—18. Realistic treatment of trees in Mughal Painting.



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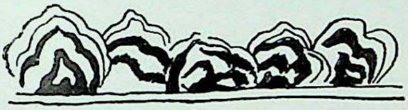

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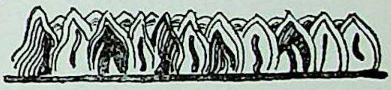

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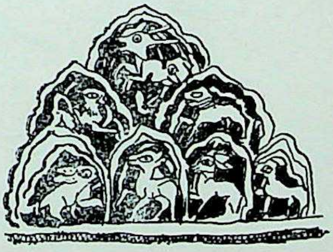

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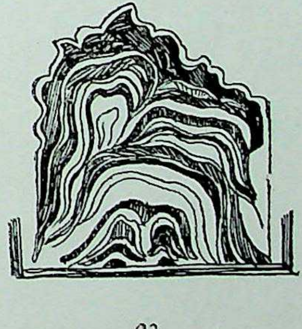

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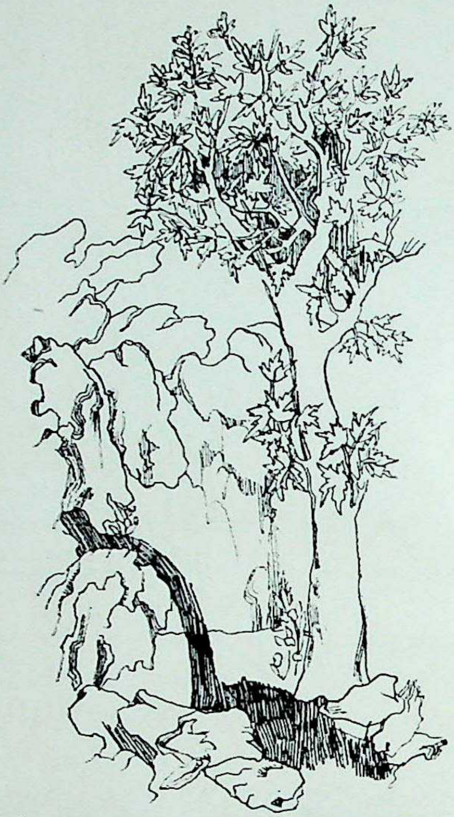
Fig. 19. Mountains as piled cubes at Ajanta.
Fig. 20. Flame-like treatment of hills in Jain Mss.
Fig. 21. Hills shown by curled lines and trefoil arches in Jain Mss.
Fig. 22. Hills as piled arches with animals inside in Jain Mss.
Fig. 23. Black and white streaks to show hills in Jain Mss.



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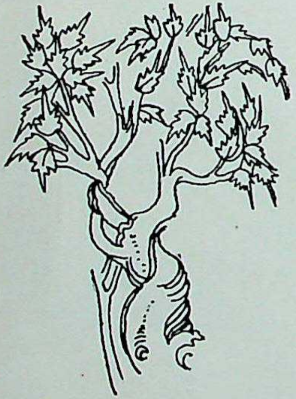

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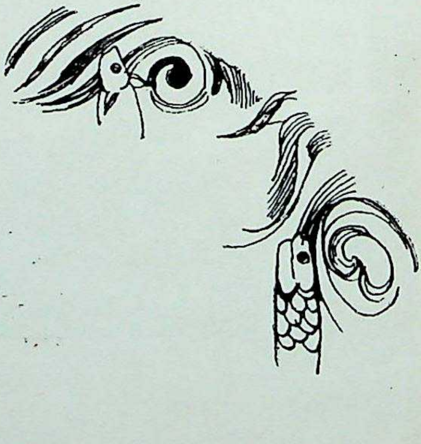

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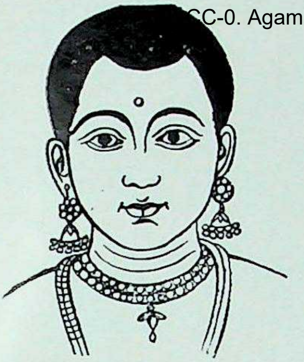
Fig. 24. Mountains and trees in Persian art.
Fig. 25. Boluders with trees in Mughal art.
Fig. 26. Treatment of water with acquatic animals in Ajanta painting.

Plate. VII.



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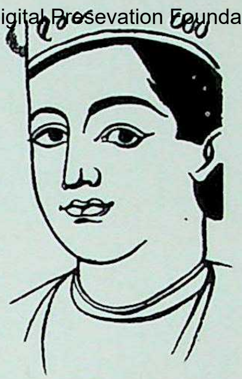

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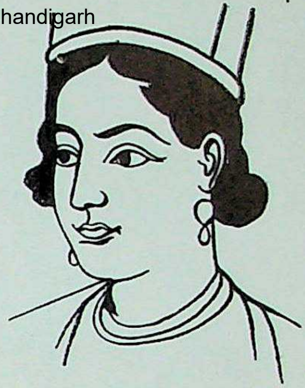

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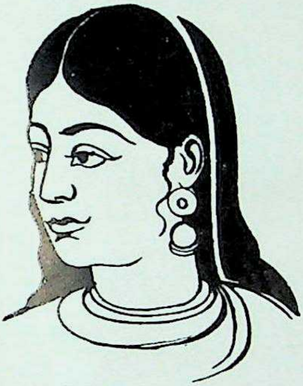

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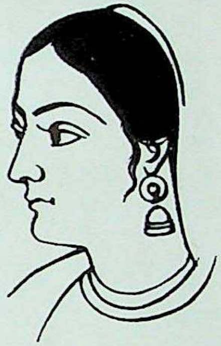

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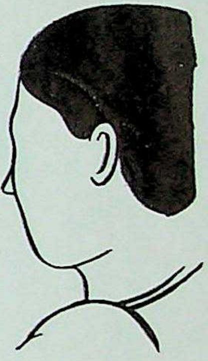

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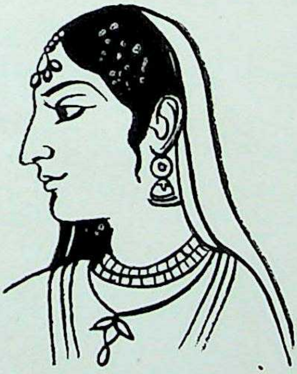

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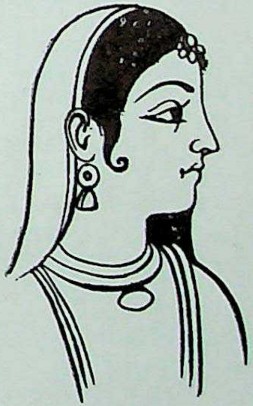

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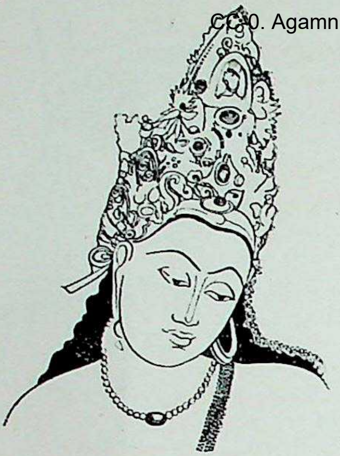
Fig. 27. Front view (*Sanmukh chihrā*). Fig. 28. Three–quarter view (*paune–do chashm*). Fig. 29. One and a half view (*ḍeḍha chashm*). Fig. 30. One and a quarter view (*Savī chashm*). Fig. 31. A little more than profile. Fig. 32. Back view (*ulṭa chihrā*). Fig. 33. Left (*bā̃yi ek–chashmi*). Fig. 34. Right profile (*dahini ek–chashmi*).

Plate. VIII.



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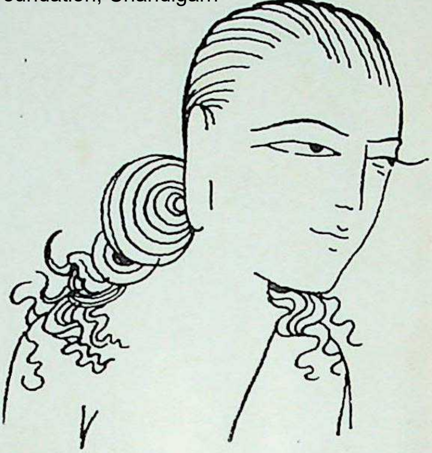

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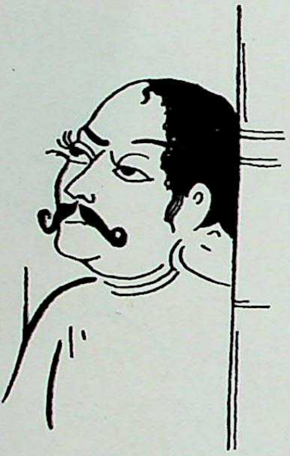

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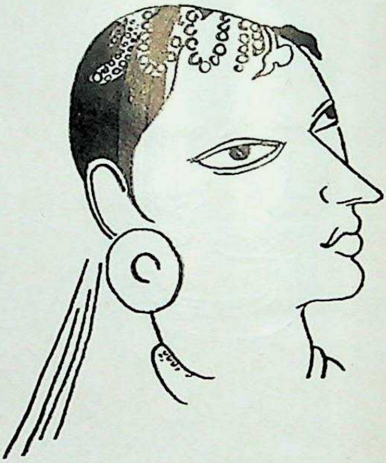

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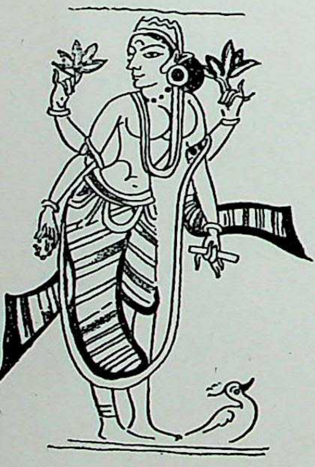

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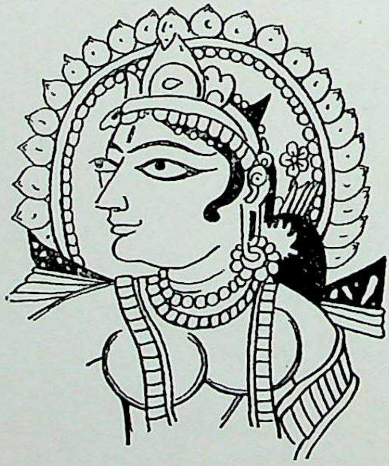

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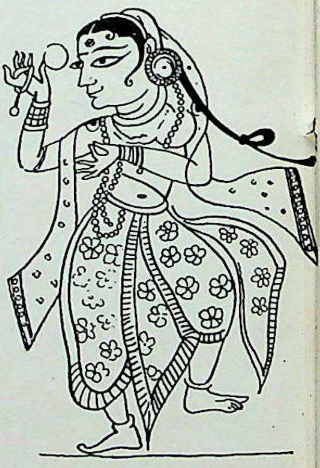

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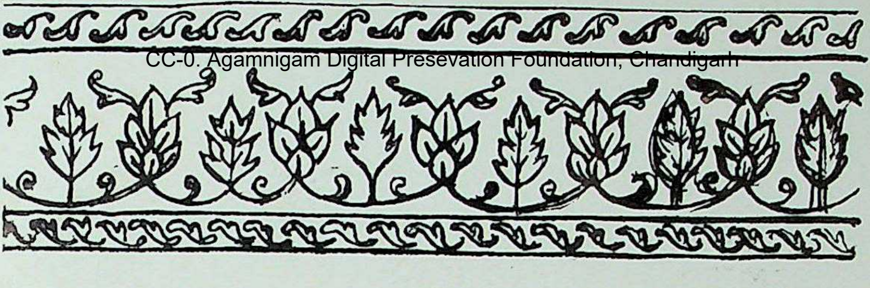
Fig. 35. Three-quarter profile at Ajanta. Fig. 36–37. Further pinching of the cheek and the protruing eye at Ajanta. Fig. 38. Further diminishing of cheek in three-quarter view at Ellora. Fig. 39. Ellora tradition of the three-quarter view in Jain mss. Figs. 40–41. Profile view in Jain paintings with protruding eye



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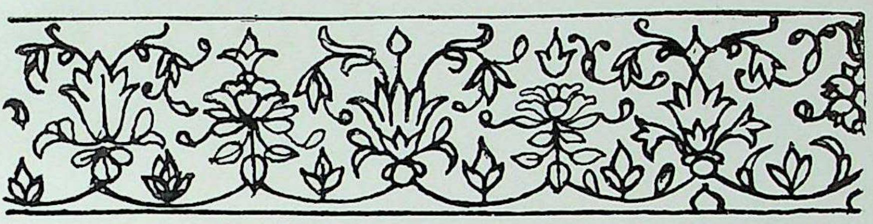

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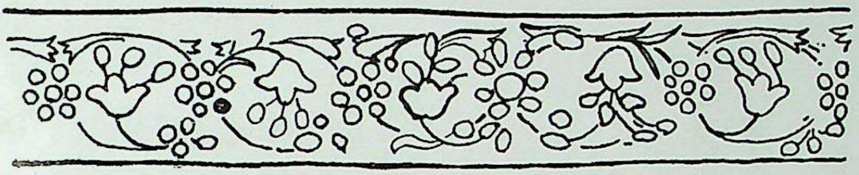

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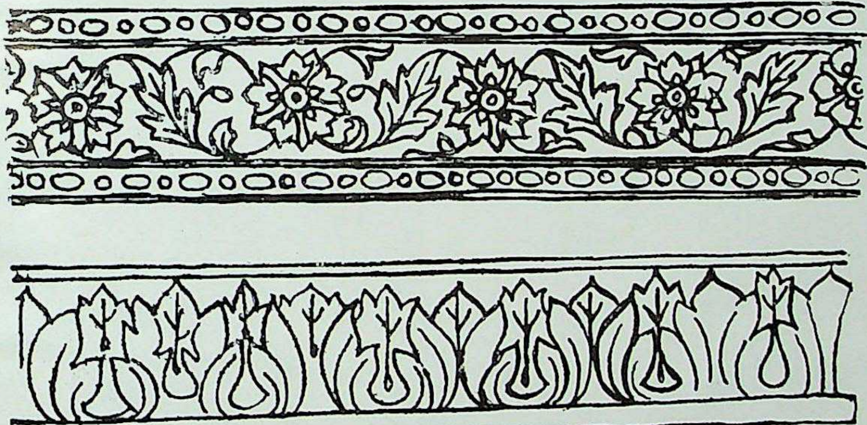

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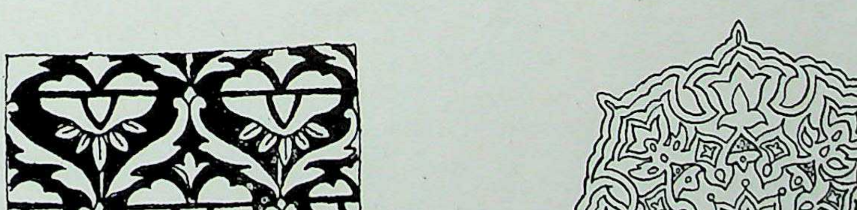

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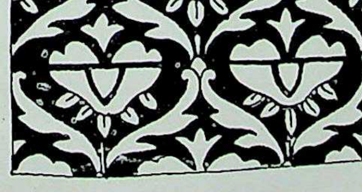

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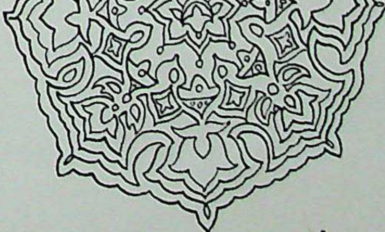

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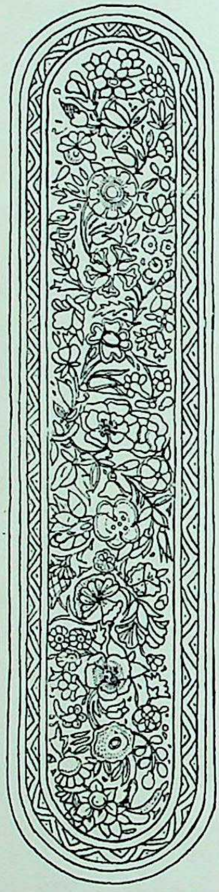
Fi[illegible] Floral scroll (*bel*). Fig. 43. Floral rhizome (*latar*). Fig. 44. Guilloche [illegible] 46. Palmate



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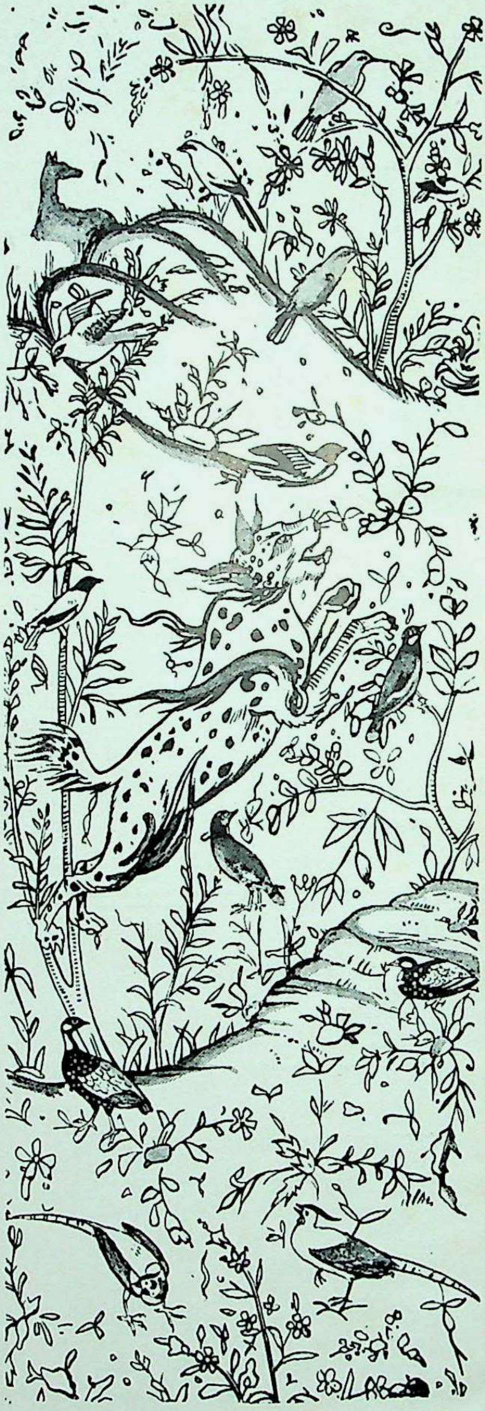

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Fig. 49. Interlacing of flowers, leaves or creepers (*janglī*).
Fig. 50. Hunting scene (*Shikargah*)